

CUSTOMER SUCCESS: STORAGE CONSOLIDATION AND DISASTER RECOVERY



Atlantic Health

Formed in 1996, Atlantic Health is one of the largest health care systems in New Jersey. With more than 1,100 licensed beds, 8,000 employees and 530,000 outpatient visits each year, Atlantic Health has more than **100 terabytes of vital information**. With the growing dependency on electronic information for the day-to-day operation of the hospitals and pressures from regulatory and governance legislation, such as HIPAA, it became increasingly important that Atlantic Health and the organization's Information Technology Director, Pat Zinno, address their **disaster recovery (DR)** requirements in a comprehensive and urgent manner.

Project Goals:

- Design, implement, & test disaster recovery infrastructure
- Introduce a cost-effective tiered storage architecture

Project Objectives:

- Segregate applications based upon RTO and RPO
- Assign disk storage based upon degree of business criticality
- Improve data back-up and recovery

Project Success:

- \$600,00.00 in storage expenditure savings
- Disaster recovery times cut from days to hours
- Automated ILM strategy established to improve cost-effectiveness and information availability

Challenge

Atlantic Health, like most health care organizations in the US today, has implemented state of the art clinical applications and telemedicine solutions that have revolutionized the care delivery process. Healthcare, once a user of information technology in the back office settings of hospitals, has now reached the point where information technology is critical at the point of care. Modern healthcare applications perform complex and rules-based algorithms to help prevent deadly medical errors; radiology exams are now read on large high-resolution computer monitors and are stored in large database; and the traditional processes of hand-writing are being replaced by physician-based order entry systems and computerized patient records. All of this has one common theme: ***an incredible dependency on information technology and that it is always available.***

While the primary goal of the project was to **design, implement and test a disaster recovery infrastructure** to protect their primary data center located in Morris Plains, NJ, a secondary and equally important goal was to **introduce a cost-efficient tiered storage architecture** which would allow systems to be implemented in a model consistent with their level of business criticality.

Solution

One of the initial project objectives was to **segregate individual applications by business criticality based upon predefined recovery time objectives (RTO) and recovery point objectives (RPO)**. In disaster recovery terms, RTO is the period of time after an outage in which systems and data must be restored. RPO refers to the point in time prior to the outage that systems must be restored to (i.e., defining how much data will be lost). In the Atlantic Health DR design, applications will be recovered

CUSTOMER SUCCESS: STORAGE CONSOLIDATION AND DISASTER RECOVERY (CONT'D.)

within the defined RTO and RPO on standby systems located at the alternate data center at Atlantic Health's Overlook Hospital in Summit, NJ.

Melillo recommended that the customer adopt a new **tiered approach to assigning disk storage**; from a centralized platform and **based upon each individual application's degree of business criticality**. With this premise, business applications deemed to be the "mission critical" would be assigned disk storage by means of a Storage Area Network (SAN) connection. Slightly less vital "business critical" applications would be assigned disk storage by an equally redundant, but more cost effective Network Attached Storage (NAS) configuration.

Using the metrics for storage allocation and DR defined above, the implementation team was tasked to design a storage solution to achieve both objectives. A third key objective, focused on **improvement to data backup and recovery operation** was also factored into the overall design.

In this effort Melillo has leveraged EMC products and partnered with EMC engineers to help design and implement the solution. The primary storage platform anchoring the new configuration is the EMC Symmetrix DMX-3. The EMC Connectrix MDS 9509 provides connectivity within the SAN environment and the EMC Celerra NS Series / Gateway provides support for NAS and iSCSI. In the near future, critical business data will be replicated to the DR site utilizing EMC Symmetrix Remote Data Facility (SRDF) software.

Results

Individual application servers were migrated to the new EMC storage architecture in 2007, in many cases, as part of larger application upgrade projects. The end goal according to Zinno has been to achieve a state where all of the critical applications are running within this new architecture and the organization has the comfort of knowing all of the data is being replicated and technology operations can be restored.

In working with Melillo Consulting to implement this EMC architecture, Zinno has saved Atlantic Health **approximately \$600,000 in storage expenditures** and **cut disaster recovery times from days to hours**. Utilizing EMC storage and software, along with Melillo's services, Atlantic Health was able to establish an automated **information lifecycle management (ILM) strategy** to improve the cost-effectiveness and availability of significant medical and administrative information. In May of 2007, Zinno received the 2007 EMC Information Nation Award. The award honors innovation and excellence in the EMC customer reference community.

