

CHILTON HOSPITAL

Award-winning hospital transforms healthcare IT with VCE Vblock and EMC data protection



ESSENTIALS

Industry

Healthcare

Company Size

1,400 employees

Business Challenges

- Data center was running out of physical space
- Critical projects were delayed due to infrastructure constraints

Solutions

- VCE Vblock Infrastructure Platform
- EMC FAST Suite
- EMC Data Domain
- EMC NetWorker
- EMC RecoverPoint
- MEDITECH EHR, Quantum medical coding, Cardiac Science Pyramis ECG management, Varian oncology systems, Alpha ImageWorks EMR
- Microsoft Exchange, Microsoft SQL Server, Microsoft SharePoint

OVERVIEW

Chilton Hospital is an award-winning 260-bed non-profit acute care hospital, with 1,400 employees and more than 630 physicians representing 60 medical specialties. Annually, Chilton serves more than 160,000 patients across 33 communities in Northwestern New Jersey.

BUSINESS CHALLENGES

Following years of expansion and adoption of advanced medical technologies, Chilton's data center was running out of space. The hospital had accumulated a mixture of HP and IBM servers with direct-attached storage, as well as some earlier-generation EMC® unified storage. Faced with a long list of new projects to expand its MEDITECH environment and meet meaningful use requirements for electronic healthcare record (EHR) projects, Chilton had to either build out a new data center or consolidate its existing infrastructure.

Chilton decided to explore virtualization and evaluated solutions from HP and EMC. The healthcare provider replaced its previous HP, IBM, and EMC systems with a single VCE Vblock® Infrastructure Platform comprised of EMC, Cisco, and VMware technologies.

Mark Lederman, Chilton's vice president and CIO, comments, "With the Vblock system, we liked the idea of a virtualized converged infrastructure that enabled us to concentrate our IT resources in one small footprint. Having a single point of contact for support under the umbrella of VCE for all our computing, storage, and networking was also a clear advantage."

SOLUTIONS

Chilton Hospital implemented a Vblock 300 Infrastructure Platform comprised of EMC VNX® unified storage and Cisco Unified Computing System (UCS) blade servers. The VNX is configured with a FLASH 1st strategy that leverages the EMC FAST™ Suite, consisting of FAST Cache and FAST VP, along with Flash and high-capacity disk drives. Approximately 93 percent of the server infrastructure is virtualized with VMware® vSphere™ and 94 end-user desktops have been virtualized with VMware View.

The Vblock runs all of Chilton's clinical and business applications, including MEDITECH EHR, Quantum medical coding, Cardiac Science Pyramis ECG management, Varian oncology systems, and Alpha ImageWorks EMR (electronic medical record), as well as Microsoft Exchange, Microsoft SQL Server, and Microsoft SharePoint.

Results

- Transformed from zero to 93 percent virtualized in nine months
- Avoided \$4 million outlay to build a new data center
- Improved storage utilization from six to 93 percent
- Enabled accelerated rollout of 60 new projects in one year
- Improved system performance by two to three times
- Streamlined full MEDITECH backups from days to hours

To protect its critical clinical and business applications, Chilton deployed EMC backup and recovery solutions, including EMC Data Domain® deduplication storage systems with EMC Data Domain Boost software, EMC NetWorker® unified backup and recovery software, EMC NetWorker Module for MEDITECH backup and recovery software (NMMEDI), and EMC RecoverPoint™ remote data protection. The Data Domain system is replicated to another system at a secondary site for added protection.

EMC partner, CDI, designed, installed, and configured the Vblock system. Post-implementation support is provided by VCE.

Meraz Nasir, Chilton's director of technology services, remarks, "VCE support has been excellent. They have great knowledge of MEDITECH and all of the technologies inside the Vblock system, which has been a huge benefit in helping us resolve issues quickly and enabling accelerated healthcare delivery."

ACCELERATED CLINICAL TRANSFORMATION

With the agility enabled by virtualization and IT as a Service (ITaaS), Nasir and his team implemented dozens of new IT projects in one year, including new MEDITECH applications such as computerized physician order entry (CPOE), physician documentation, enhanced nursing documentation, medication administration and reconciliation, expanded community-wide scheduling, data repository, and a physician practice management solution, along with important business applications.

Nasir explains, "During a nine month period, we went from zero to 93 percent virtualized. In a parallel effort over a year, we rolled out 60 applications and managed a significant expansion of our newly virtualized MEDITECH EHR infrastructure. The magnitude and speed of change and innovation for the hospital was remarkable. Vblock was pivotal in enabling such a dramatic transformation."

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Director of Technology Services at Chilton Hospital

In addition, Chilton was able to migrate old Lotus Domino physical servers no longer under maintenance to a virtualized Microsoft Exchange environment. This enabled Chilton to provide email to all of the hospital's 1,400 employees instead of just a few hundred, improving communication across the enterprise.

"We're able to respond on the fly to requests from application owners," Nasir added. "For example, setting up a test server in the old physical infrastructure could take weeks, if not months. Now, we can deploy the server, configure the environment, and set up the test in literally half a day."

MILLIONS OF DOLLARS SAVED, INNOVATION ENABLED

Consolidating its distributed, disparate infrastructure onto the Vblock enabled Chilton to reduce the number of racks in its data center from 22 to ten. It also avoided an estimated \$4 million outlay in construction costs to build a new data center.

"We're ecstatic about the Vblock system," says Nasir. "Our space issues have gone away and storage utilization has improved from 6 to 93 percent. And the space we gained on our data center floor is wide open for additional growth and innovation."

BYOD ENHANCES ACCESSIBILITY

With virtual end user computing, Chilton was able to launch a "bring your own device" (BYOD) program, enhancing accessibility to its healthcare and business applications.

"Access to physical desktops and nursing workstations is not always readily available to our clinicians especially during busy times," notes Lederman. "With our strategic push for BYOD, physicians can now use their iPad or Android or any device they like to access MEDITECH and other systems. It's done wonders for physician satisfaction."

DRAMATIC PERFORMANCE IMPROVEMENT

By leveraging a FLASH 1st strategy with its VNX platform, Chilton has seen a two to three times improvement in system performance.

"Physicians used to wait up to ten minutes to get an important blood report before we had VNX and FLASH 1st," recalls Nasir. "Now that report is available in a minute or two."

"The clinicians and administrative staff are happier because they can access information and files so much faster," he continues. "Vendors are also very surprised when they come in to do an upgrade. They expect it to take several hours, and it's done in under an hour. The performance improvements are really incredible."

"Just a couple of years ago, IT was primarily a support department, managing the underpinning technology on which the hospital conducted its business. Today, we're much more focused on improving quality and efficiency, and introducing innovative solutions that align with the hospital's strategic plan. Our Vblock system and pervasive virtualization are making that possible."

Mark Lederman
Vice President and CIO at Chilton Hospital

STREAMLINED DATA PROTECTION

With Data Domain, NetWorker, and RecoverPoint, Chilton has streamlined data protection for MEDITECH, Exchange, and SQL Server, among other applications. Data Domain high-speed inline deduplication has shortened the hospital's backup window dramatically, enabling daily full backups, which were never before possible.

"Running dedicated MEDITECH backups with EMC backup and recovery solutions has streamlined our backup and recovery operations while providing better availability," says Nasir. "When we ran full backups on tape, it took a couple of days to complete. With Data Domain, daily full backups complete within a few hours."

"If needed, I can go into NetWorker and restore one of our backups in minutes. This is especially helpful if I need a test system for MEDITECH, which took almost a day to set up before. Now I can restore the data and have everything set up for testing in under an hour," Nasir continues.

The EMC disk-based backup solution also has eliminated 112 backup tapes and enabled additional savings related to offsite tape storage and administration.

By using RecoverPoint to complement Data Domain replication for MEDITECH protection, Chilton has also improved its recovery time objective (RTO) significantly.

"Before, the RTO for MEDITECH was 24 hours and we could lose more than 15 hours worth of data," states Nasir. "With RecoverPoint, we take bookmarks every two hours and our RTO has improved to 30 minutes. And, we've dramatically minimized the risk of data loss."

TRANSFORMING TO FOCUS ON INNOVATION

Thanks to the efficiencies enabled by its Vblock Infrastructure Platform, Chilton's IT staff has more time to focus on projects that help the hospital continually improve patient care. In fact, the role of IT is evolving to become much more of a service provider.

"Just a couple of years ago, IT was primarily a support department, managing the underpinning technology on which the hospital conducted its business," observes Lederman. "Today, we're much more focused on improving quality and efficiency, and introducing innovative solutions that align with the hospital's strategic plan. Our Vblock system and pervasive virtualization are making that possible."

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