



NetApp®

Success Story

Group Health Moves Epic Software Suite to Linux/VMware on NetApp for Out-of-the-Park Performance



Another NetApp solution delivered by:



KEY HIGHLIGHTS

Industry
Healthcare

The Challenge

Consolidate servers and storage to simplify and facilitate management of Epic EHR applications for better performance and agility.

The Solution

Migrate Epic EHR to a new FlexPod® architecture for cost saving consolidation, simplified administration, and improved application performance.

Benefits

- Deliver “out-of-the-park” performance for clinicians using Epic EHR software
- Reduce storage administration by 50%
- Reduce server/storage annual costs by more than 60% over two years
- Reclaim up to 40% of data center space
- Complete 30TB data migration in less than three months

Customer Profile

Group Health Cooperative of South Central Wisconsin (GHC-SCW) is an award-winning, nonprofit managed healthcare organization that provides the entire spectrum of healthcare services, including insurance, primary care, and specialty care. GHC-SCW’s nationally ranked primary care clinics integrate with the insurance arm of the organization to provide quality care with value-added services. Founded in 1976, GHC-SCW focuses on delivering quality care and innovative services to its more than 70,000 members. In 2012, the National Committee for Quality (NCQA) ranked GHC-SCW ninth in the nation, marking the seventh consecutive year the organization has placed among the top-10 health plans in the nation.

The Challenge

Migrate Epic Cache production while consolidating and simplifying storage

David Stark, chief technology officer at GHC-SCW, faced an enormous challenge in achieving his vision for rearchitecting the organization’s existing IT infrastructure to enable more responsive delivery of provider and patient services, and at the same time reducing overall IT costs. Achieving

those objectives required clearing several major hurdles.

First of all, the IT team was supporting one of the last Epic Systems software installations still running on a Microsoft® Windows® platform. As a prerequisite for upgrading and maintaining support for its business-critical Epic software suite, GHC-SCW was required to migrate those systems to a UNIX® platform. These UNIX platforms were based on expensive RISC-processor servers. Stark wanted to utilize more cost-effective Intel x86-processor servers, and also wanted to virtualize the organization’s Epic production server environment. Although GHC-SCW had been running Epic nonproduction and file services environments in a VMware-based virtualized server environment for some six years, Epic Systems had only recently authorized VMware-based Linux® implementations of production systems as a target platform.

Supporting these projects as well as integrating desired virtual desktop functionality would necessitate new server and storage capacity. But Stark says that expanding the existing infrastructure did not make business sense.

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Brad Bishop

System Administrator, Group Health Cooperative of South Central Wisconsin

Aging legacy servers and SANs were expensive to maintain, and storage was particularly time-consuming to expand and complex to manage. Stark hoped to simplify by consolidating all of the organization’s data onto a single storage infrastructure. The goal was to migrate the data currently scattered across two different SAN technologies (from EMC and Dell EqualLogic) and numerous local servers.

“We wanted an easier-to-manage storage environment that could deliver greater long-term flexibility,” Stark explains. “Rather than deploying yet another solution from another vendor, we saw the value in standardizing on a single, agile storage infrastructure that could support our expanded Epic software installation, as well as our file-serving and other application environments, including Microsoft Exchange and SQL Server® systems. Of course adding to our challenge was the time pressure for the Epic software upgrade and a very limited capital budget for the current operating year.”

The Solution

Standardize on the FlexPod architecture

To evaluate storage options, GHC-SCW enlisted the services of Netech, a technology-solutions provider experienced in healthcare IT. Netech led the comparison

of solutions from NetApp and incumbent suppliers EMC and Dell EqualLogic. GHC-SCW System Administrator Brad Bishop summarizes requirements: “We wanted an integrated solution that was easier to manage than what we had, but that was powerful enough to support our demanding Epic software applications and sufficiently versatile to handle all of our other block- and file-based storage requirements.”

FlexPod—a Cisco Validated Design (CVD) architecture by NetApp, Cisco, and VMware—uniquely met GHC-SCW requirements for ease of use, consolidated access to both NAS and SAN over a unified fabric, and high-availability performance to handle the stringent requirements of the Epic software suite. Bishop says that performance testing was essential in the decision process: “NetApp delivered out-of-the-park performance. The results exceeded our expectations, as well as the I/O requirements specified by Epic Systems for production systems. Epic engineers actually asked us to rerun their Epic GenerateIO tests because they didn’t believe the numbers the first time. NetApp passed with flying colors.”

Today, GHC-SCW runs its business, including the entire Epic Systems environment, on the FlexPod solution. Deployed at the primary data center,

the FlexPod platform integrates a NetApp FAS3240HA, Cisco Unified Computing System™ blade servers, and Cisco Nexus switches. The Intel processor-based Cisco UCS servers are virtualized with VMware vSphere®, and use Red Hat Enterprise Linux (RHEL) as the operating system. A second NetApp FAS3240HA at the GHC-SCW disaster recovery (DR) facility enables business continuity. The FlexPod solution also supports GHC-SCW ancillary health information systems, Microsoft Exchange and SQL Server systems, Microsoft Great Plains accounting applications, file services, and a VMware View™ virtual desktop infrastructure (VDI) in clinics for access to various Epic modules.

The mission-critical Epic software supports administrative processes and all facets of patient care. All told, some 14 software modules—including the EpicCare EHR, Epic Welcome Kiosk, Tapestry for managed care administration, the Radiant Radiology Information System, and the Willow Inpatient Pharmacy System—are used across every discipline and run reliably on NetApp storage. With this migration, GHC-SCW became the first healthcare organization to deploy its Epic production systems on Linux in a VMware environment running on NetApp storage.

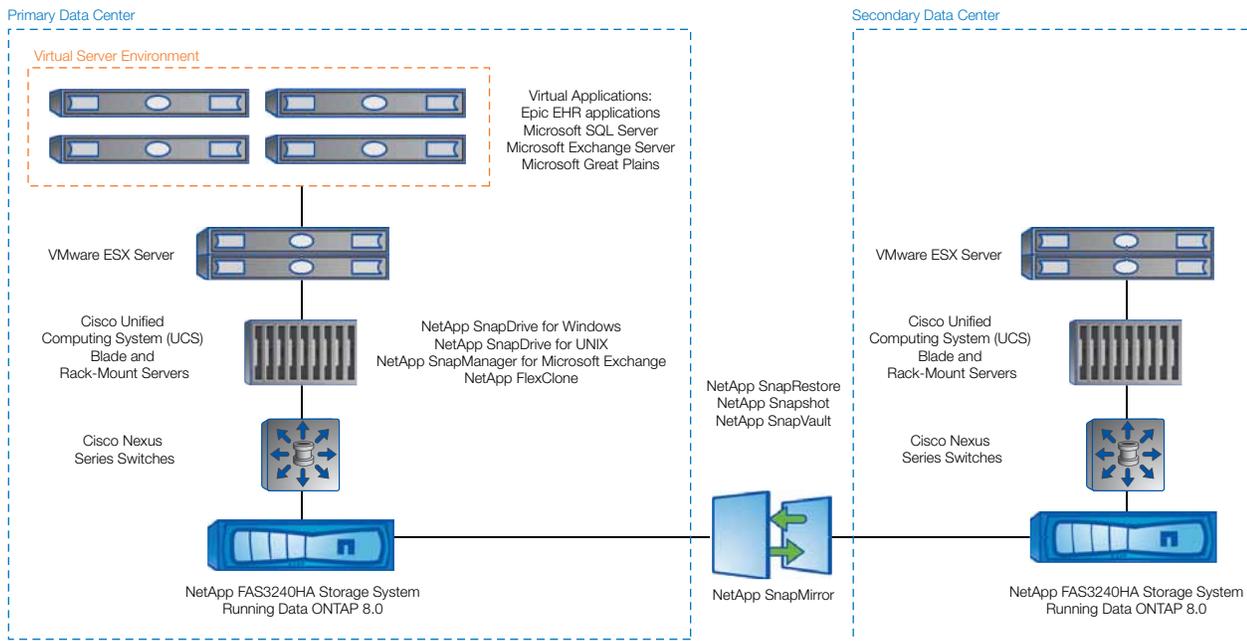


Figure 1) Group Health relies on a new FlexPod architecture to deliver cost-saving consolidation, simplified management, and improved performance for Epic EHR applications on Linux.

Business Benefits

Enhanced services at lower cost

With the deployment of the FlexPod solution, GHC-SCW health providers, administrators, and customers have been benefiting from greater accessibility to services, enhanced responsiveness, and expanded offerings. For the IT team, the infrastructure streamlines application delivery and dramatically reduces maintenance. Bishop describes the change: “In our previous environment, there was not a lot of room for error on the management side. Most changes required the involvement of our primary systems administrator, and in some cases we even had to bring in the storage vendor to help us move data or expand storage capacity.

“Today, administration is so simple that we can add new capacity in hours, not days. And multiple people on our IT team can make the changes—we don’t need a storage expert. It’s been a major benefit to deal with just the one big aggregate in the Data ONTAP® file system. We don’t have to always worry about the different RAID types and whether or not to mirror or stripe something.”

IT has also been able to automate much of its storage administration. Bishop adds, “Overall we now spend 50% less time managing storage and

expect to reduce our annual server/storage maintenance costs by more than 60% over the next two years. Without any IT staff additions and with less than one FTE allocated to storage, we’re able to respond to changing business needs much faster and more consistently, helping the organization reduce time to market for new or enhanced services.”

Consolidation has also allowed GHC-SCW to reclaim some of the valuable data center footprint. “We’ve literally carted off truckloads of decommissioned systems,” comments Stark. “To date, we’ve recovered 25% of our data center space, with expectations for that to reach 40% when we’ve completed consolidation. We’ve eliminated IT silos and are benefiting from centralized resource management. We also like the efficiencies of working with just a few key technology vendors.”

Business continuity

The FlexPod architecture delivers the high availability and disaster recoverability that are essential to maintaining GHC-SCW business continuity. Using NetApp Snapshot™ technology and NetApp SnapMirror® replication software, GHC-SCW makes more frequent local backups of production systems and automatically mirrors systems to

the DR site. “Although at the present time, the NetApp infrastructure at our second site is used solely for DR, we will eventually move some of our application load to that system. The dual-use system makes DR much more affordable.”

Quality partnerships for flexibility, agility

With the support of Netch and the NetApp Professional Services team, GHC-SCW was able to rapidly migrate 30 terabytes of data and cut over to the FlexPod architecture. “We’re a small organization, but our data center is fairly significant in size,” comments Stark. “Considering the number of traditional servers and storage systems we had in place, it’s remarkable how fast we were able to move everything and how little consulting help we needed to do it. I’d even go so far as to say it was easy.”

“By standardizing on the FlexPod solution that is easy to implement and maintain, we’re able to maximize our IT team’s impact in bringing greater service agility and functionality to support the needs of GHC-SCW healthcare providers and consumers,” concludes Stark.

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David Stark

Chief Technology Officer, Group Health Cooperative of South Central Wisconsin

SOLUTION COMPONENTS

FlexPod Components

NetApp FAS3240HA storage systems

Cisco UCS blade servers and rack-mount servers, with Intel Xeon® processors

Cisco Nexus series switches

VMware ESX® Server

Red Hat Enterprise Linux

NetApp Software

Data ONTAP 8.0

SnapRestore®

SnapVault®

Snapshot technology

SnapMirror

FlexClone®

SnapDrive® for Windows

SnapDrive for UNIX

SnapManager® for Microsoft Exchange

Applications

Epic modules: EpicCare EHR, Welcome Kiosk, Tapestry for managed care administration, the Radiant Radiology Information System, and the Willow Inpatient Pharmacy System

Microsoft Exchange Server

Microsoft SQL Server

Microsoft Great Plains

Protocols

CIFS, NFS, FC, FCoE

Partner

Netech

<http://www.netechcorp.com/>



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