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RIVERSIDE
HEALTHCARE

Riverside Healthcare speeds access to critical medical images with all-flash HPE 3PAR

Returns radiology images in seconds to improve patient care and satisfaction

Objective
Improve responsiveness of critical radiology picture archiving and communication system (PACS) that directly impacts patient diagnosis and care, and ensure high performance and availability for other core healthcare and business applications

Approach
Deploy all-flash HPE 3PAR StoreServ 8450 Storage to run PACS, augmenting existing HPE server and storage infrastructure

IT Matters
- Accelerated PACS image retrieval from 1 to 2 minutes to less than 10 seconds

- Enabled ready access to two years of PACS images instead of just six months

- Reduced PACS footprint from 1½ racks to two shelves in a single rack

Business Matters
- Speeds radiologists' ability to diagnose and treat patients

- Ensures high performance and availability of critical electronic health record (EHR) services

- Enhances the overall patient care experience

Riverside Healthcare leverages its IT infrastructure built on HPE 3PAR storage and ProLiant servers with Intel® Xeon® processors to improve patient diagnosis and care with fast access to critical medical images and high performance and availability of core healthcare applications and EHR services.

Understanding how IT impacts patient care

Riverside Healthcare is a fully integrated healthcare system, serving the needs of patients across a broad region in northeastern Illinois. Like most healthcare institutions, Riverside strives for clinical, operational and service excellence. But for this organization, the commitment to delivering remarkable healthcare experiences goes even deeper. Everyone at Riverside—from the chief medical officer, through the entire clinical and administrative staff, to IT—holds a keen sense of purpose in caring for patients.

"Since we moved our PACS onto the HPE 3PAR StoreServ 8450, images now come up in just a few seconds. Our radiologists are very happy and the patient's experience is greatly improved."

— Troy Cailteux, System Administrator, Riverside Healthcare

Troy Cailteux, system administrator with Riverside puts it like this: "There's a common understanding at Riverside that regardless of your position, you can affect the patient. As a system administrator I think about that every day. The reason we have these IT systems is to help doctors and nurses and administrators. So if we do our best work in IT, the clinicians can do the best things possible to help the patients."

It's that desire for excellence that led Riverside to standardize on Hewlett Packard Enterprise (HPE) servers with Intel® Xeon® processors in its data center core. The healthcare provider has long relied on HPE servers and storage, continually evolving the infrastructure as new technologies and capabilities emerge. Most recently, Riverside acquired the latest all-flash HPE 3PAR StoreServ 8450 Storage to run its McKesson picture archiving and communication system, replacing an older HPE storage solution that had run its PACS for years.

All-flash HPE 3PAR StoreServ Storage transforms PACS

Riverside's McKesson PACS manages all the radiology images doctors use to diagnose patient conditions and evaluate treatment options. PACS had been running on legacy HPE storage, but with advances in image resolution and the sheer number of images needed on an active basis, Riverside had stretched its previous storage to its limits.

Storage performance became a problem, forcing radiologists to sometimes wait as long as eight or nine minutes to retrieve an image. Even the average one to two minutes for image retrieval was not fast enough.

Cailteux has since moved its McKesson PACS onto the 3PAR StoreServ 8450 Storage, and the all-flash performance has changed everything. "You think about a child sitting there with a broken arm and you want to do anything possible to help those doctors treat it faster," he says. "Since we moved our PACS onto the HPE 3PAR StoreServ 8450, images now come up in just a few seconds. Our radiologists are very happy and the patient's experience is greatly improved."

The HPE 3PAR StoreServ 8450 Storage also provides Riverside with much more capacity. Now, it can store two years' worth of PACS images in cache for nearly instant accessibility, compared to only six months of images before. There's also enough room for VMware® virtual machines (VMs) to run the McKesson PACS application alongside the images themselves. This improved efficiency will ultimately reduce the physical PACS footprint to just a fraction of a rack instead of 1½ full racks, once the legacy HPE storage is formally decommissioned.

To meet healthcare regulatory requirements and its own business policies, Riverside archives all PACS images older than two years onto a pair of HPE 3PAR StoreServ

Customer at a glance

Application
- Epic Electronic Health Record (EHR) and McKesson Picture Archiving and Communication System (PACS)

Hardware
- HPE 3PAR StoreServ 8450 Storage
- HPE 3PAR StoreServ 8200 Storage
- HPE 3PAR StoreServ 7400 Storage
- HPE BL460 Gen9 Servers
- HPE ProLiant DL360 Servers
- HPE ProLiant DL380 Servers

Software
- Red Hat® Enterprise Linux 7
- HPE 3PAR Replication Software Suite
- iTernity iCAS
- VMware vSphere
- Commvault Simpana

HPE Pointnext services
- HPE Proactive Care

8200 Storage arrays using iTernity Compliant Archive Software (iCAS). This provides both a cost-effective and highly reliable solution that meets and exceeds industry standards for a compliant medical archive.

Breathtaking performance for Epic EHR

Riverside's clinical environment is centered on Epic, a tightly integrated, patient-centric EHR platform renowned for its performance, stability, and scalability. Epic environment runs on HPE BL460 Gen9 servers with Intel® Xeon® processors, 100% virtualized with VMware vSphere. For storage, Riverside relies on HPE 3PAR StoreServ 7400 with a mix of flash and spinning drives along with HPE 3PAR StoreServ 8400 Storage for disaster recovery (DR).

To meet the strict performance requirements of critical Epic EHR services, Riverside placed the central Epic Caché database on flash. Ancillary Epic components, including Cogito analytics and reporting, as well as a Caché test environment, run on 15K SAS drives, while business systems such as Microsoft® Exchange sit on 10K SAS drives.

Cailteux remarks, "When we built out the Epic Caché database on flash, we were blown away at the performance. It's almost breathtaking how fast it responds, which means that nurses and doctors can pull up patient records much quicker when attending to our patients."

For disaster recovery to its HPE 3PAR StoreServ 8400 Storage Riverside plans to use a combination of Epic Shadow Copy, HPE 3PAR Replication Software Suite, and VMware Site Recovery Manager (SRM). This will allow the healthcare provider to fluidly move data between the production HPE 3PAR StoreServ 7400 Storage and the HPE 3PAR StoreServ 8400 Storage.

Riverside also has the support of HPE Pointnext, which delivers Proactive Care services to help prevent system problems and stay up-to-date. This is especially important when the IT systems run life-critical healthcare services.

"If some event takes a system offline, that immediately impacts the ability of our nurses and doctors to care for patients," notes Cailteux. "With Proactive Care, if we do have a hardware issue, it's addressed before turning into a problem. That's really big for our organization to have a partner like HPE Pointnext that can provide knowledge and services so quickly. It's one more way for us in IT to do our part in helping Riverside provide the best patient care possible."

Learn more at
hpe.com/storage

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