DELL EMC

ENSURING PATIENTS GET THE CARE THEY NEED

Scripps Health provides the critical care and comprehensive services patients need by making certain that physicians and staff always have access to key information

Scripps

Healthcare | United States

Business needs

Faced with exploding data growth and storage systems that were having serious issues at peak utilization, San Diego–based Scripps Health needed a storage solution to support the build-out of several new data centers and launch a state-of-the-art EHR — to continue to deliver the highest-quality care to its patients.

Solutions at a glance

- Dell EMC XtremIO
- Dell EMC Isilon
- VMware vSphere®
- Dell EMC AppSync
- Dell EMC Data Domain
- Dell EMC RecoverPoint

Business results

- Provides needed performance and availability for high-quality care
- Accommodates rapid growth in images and other data
- Supports 3–4 copies of EHR data with no performance impact
- Streamlines integrated copy data management

Maintains
microsecond
latencies on EHR queries

100%
availability since implementation

Scripps Health is a private, nonprofit, integrated health system in San Diego, California. It is known not only for its four top-ranked hospitals and 28 outpatient facilities, but also for having 2,600 of the best affiliated doctors in the area, who treat 700,000 patients annually. Scripps' data storage demands had been exploding — driven by the need to handle an ever-increasing volume of digital images and address mandated retention requirements for patient information. At the same time, the outdated storage systems Scripps had been using were experiencing major performance bottlenecks and reliability issues, especially at peak utilization — impacting its electronic health record (EHR) solutions and other business-critical applications such as payroll processing.

To address these challenges, Scripps deployed Dell EMC XtremIO arrays as part of a powerful, new EHR platform from Epic that now combines the separate EHRs that Scripps used in the past for its hospitals and outpatient facilities. Scripps also created two new data centers, bringing its number of data centers to four.

"Dell EMC XtremIO provides the exceptional performance, continuous availability and flexibility to support multiple workloads to make this all work," says Hector Aguirre, senior systems engineer for Scripps Health. "The XtremIO array met every one of our requirements."

Healthy commitment to clinical excellence

Epic is widely recognized as one of the leading EHRs in the industry. The solution's screens, workflows and specialty applications are fast, flexible and easily personalized. Predictive analytics and decision-support tools help physicians and other staff members deliver the highest-quality clinical care. Common tasks are streamlined to enhance productivity and effectiveness. Innovative mobile apps keep healthcare professionals connected wherever they go. And patients can use Epic to efficiently schedule appointments, message doctors and help manage their health.

To handle Epic's storage requirements, Scripps Health relies on a total of 18 XtremIO X-Bricks with approximately 275TB of storage in each of its new data centers. In addition, a

cluster of six 40TB X-Bricks in the healthcare provider's legacy data center handles mixed workloads for critical applications such as VMware vSphere® — which is used to virtualize 98 percent of Scripps' IT environment — Microsoft SQL Server, and Oracle applications and databases.

"XtremIO is helping our clinical teams deliver exceptional care, thanks to its high performance, 100 percent availability and ability to service multiple workloads with no bottlenecks," Aguirre remarks.

"*Dell EMC XtremIO provides the exceptional performance, continuous availability and flexibility to support multiple workloads to make this all work.*"

Hector Aguirre
Senior Systems Engineer, Scripps Health

4:1
data reduction ratio
in VDI environment

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Virtual copies simplify development and recovery

The Epic EHR requires users to maintain multiple copies of its vital data for production and development. Scripps Health currently has four copies of between 8TB and 10TB each, replicated to its secondary data centers. In addition, XtremIO Virtual Copy (XVC) technology — together with Dell EMC AppSync — enables integrated copy data management (iCDM), efficiently orchestrating hundreds of copy volumes of workloads and applications for development, validation and time-stamped recoverability, with no impact on production.

"In the past, we had to clone copies or use networking tools to move copies from our production to our development servers," explains Aguirre. "The whole process would take up to 12 hours, and then, if something broke, there were further delays. Leveraging XtremIO virtual copies, orchestrated by AppSync, lets us remotely mount those file systems and validate the data within minutes."

VDI lets caregivers focus on patients

Scripps' XtremIO arrays are proving to be ideal for its expanding virtual desktop infrastructure (VDI). With approximately 500 Citrix XenApp virtual servers and 400 Citrix XenDesktop VDI desktops supporting thousands of users, Scripps relies on XtremIO to deliver an efficient, high-quality experience for every user, 24x7x365. XtremIO's consistent performance, reliability and outstanding deduplication capabilities provide a 4:1 data reduction ratio while enabling Scripps' caregivers to spend more time focusing on patients and less worrying about technology.

Aguirre and his team are also leveraging Connectrix MDS-9710 director-class network switches with their 16GB/s Fibre Channel IO throughput to ensure scalability without impacting database performance or functionality.

In addition, Scripps counts on Dell EMC Isilon scale-out storage to keep pace with its massive data growth. Backup and recovery is provided by Dell EMC Data Domain,

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together with RecoverPoint for continuous replication and point-in-time recovery.

Transforming the way its healthcare system is run

Prior to implementing its Epic EHR, Scripps Health had relied on one EHR for its hospitals and another for its outpatient facilities.

"Epic and the XtremIO arrays represent a total transformation of the way our healthcare system is run," Aguirre declares. "We've unified our environment and ensured that we'll always have the performance needed to care for our patients."

Among the other benefits XtremIO is providing to Scripps are:

- **Outstanding responsiveness** — Latencies on database queries are consistently in microseconds

- **100% availability** — No downtime at all since the new arrays were deployed

- **Reduced expenses** — Significant cost savings on floor tiles, power and cooling by not having to expand beyond four racks in each of the data centers

- **Avoiding complex upgrades** — Scalability to stay ahead of growth without having to replace its cost-efficient, compact data center storage footprint

- **Simplified management** — A design that's intuitive and easy for Aguirre and his staff to use

"Dell EMC has been a true trusted advisor," states Aguirre. "Working with a technology company that offers solutions across the stack is a huge benefit for us — resulting in faster deployment of the right solutions and less guesswork."

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Hector Aguirre
Senior Systems Engineer, Scripps Health

Substantial
savings
on data center costs

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