Dayton Children's Hospital Partners with Qumulo to Improve Healthcare Experience for Young Patients and Their Families

Leading pediatric hospital chooses Qumulo to advance mission-critical medical and research activities, ensure patient safety, and manage extensive hospital management and records data.

Dayton Children's Hospital (DCH) in Dayton, Ohio, believes that kids and their families deserve a great hospital close to home that delivers expert medical services and groundbreaking research with care and compassion.

DCH invests in innovative healthcare technologies to deliver better outcomes for its young patients while supporting the entire family that participates in caregiving. Its mission-critical imaging data resided on a system that had reached end-of-life. To store its massive medical images, the hospital needed a new solution that provided high performance and capacity, intelligent management, cloud integration, and more than enough flexibility to serve an innovative teaching hospital. And to top off the list of requirements, DCH hoped to find a solution that would help the team move their data into the cloud for long-term retention.

"In addition to supporting mission-critical PACS, imaging application data, and the cloud, we needed our new file data platform also to host video surveillance, research computing, and clinical department requirements."

- Mike Brady

The Qumulo® File Data Platform was the answer.

Dayton Children's Hospital is a top-rated pediatric acute care and teaching hospital. DCH provides comprehensive pediatric care to patients from infants to young adult patients and their families, featuring the only Level 1 Pediatric Trauma Center in the region.

DCH leverages state-of-the-art medical imaging for fast and accurate diagnoses and improved patient outcomes.

The Challenge: Meet Rigorous Current Demands and Create a Path to the Cloud

The hospital's PACS (picture archiving and communication system) is transforming into a VNA (vendor neutral archive) solution making this critical system even more important to patient diagnosis and care. VNA solutions depend on high performance, high capacity, and intelligent systems to optimize image access and sharing.

DCH needed a solution that would support its mission-critical PACS and imaging application data as well as other hospital data platform needs. To meet all of these different use case requirements, DCH required scalable capacity, data analytics, security features, and a path to the cloud to help future proof its investment.

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Benefits

- **Simplified management - leverage staff for innovation, not administration.** The previous system required significant management time. New management simplicity and ease-of-use enables DCH's IT team to concentrate on high-priority technology innovation for healthcare.

- **Groundbreaking efficiency - manage and gain visibility into multiple workloads.** A comprehensive data platform leverages analytics and data delivery to improve healthcare services. IT gains valuable insight into performance and capacity growth, and fast image processing and delivery improve patient outcomes. Insights also help the IT team identify which workloads are using resources and simplifies budget planning.

- **Future proof - add scale and cloud services with ease.** Scalable architecture adapts to DCH's growth in the datacenter and the cloud. Compliance features simplify healthcare regulations.

DCH didn't find it at first. "Not many of the systems we looked at met our requirements. The few that did were expensive and complex, and our cybersecurity team did not feel they were secure enough," said Mike Brady, Infrastructure Network Supervisor at Dayton Children's Hospital.

Enter Qumulo

DCH looked at alternatives from NetApp and Dell EMC along with Qumulo. Qumulo met all of the requirements, delivered a path to the cloud, and dramatically simplified the entire environment. The Qumulo and DCH teams scheduled a short-range implementation date for DCH but soon realized that the hospital needed to migrate data to the new system even faster.

Qumulo jumped in. Not only did the Qumulo team commit to an earlier date, but they also finished early and on budget. Brady said, "Qumulo committed to some pretty aggressive timeframes and even helped with the prep work on our side. I was skeptical about making the date, but with Qumulo's support, we were ready. Deployment was quick and clean."

The result: Simple yet Powerful

The Qumulo File Data Platform now supports the hospital's Sectra PACS, with high-resolution images from cardiology, radiology, and neurology. Qumulo protects this life-saving data by replicating secondary copies and moving aging images to cloud-based cold storage for archive and compliance.

IT centralized active file data onto Qumulo, migrating around 200 terabytes to the new platform. Today, IT stores more than 225 terabytes of Dayton's core data. Should the company need to expand in the future, it's a simple matter of adding new nodes to automatically scale capacity and performance.

"Qumulo provides fast image retrieval by physicians, even in the most challenging and urgent hospital environments."

- Mike Brady

Simplified Management and Compliance

Healthcare compliance is a demanding process, especially in complex technology settings with multiple data types and varying retention periods. Qumulo's single data platform with all data services integrated into a single solution integrates data replication and produces detailed compliance reports.

"Customer support is great, and Qumulo nearly runs itself with a little bit of care and feeding. It allows my team to do their jobs better and gives me the confidence that we'll be able to support many new projects and changes that are coming our way."

- Mike Brady

Extreme Efficiency

Real-time analytics and dynamic scalability enable the IT team to scale capacity and performance as needed. Centralized management and automation keep administration simple. Qumulo analytics provide deep visibility to monitor data usage, which helps DCH optimize data management and planning.

For example, some medical devices push massive data. Qumulo responds to large spikes by efficiently tuning up then tuning down once the spikes even out. Qumulo's data visualization helps IT identify hotspots -- like failing connections or end-user bandwidth activity -- and adjust quickly.

DCH can track and retrieve different types of data and large datasets. Without analytics and clear pathways, large segments of data may end up lost, or as Mike calls it, "in a data boneyard." Qumulo keeps this from happening by tracking data moving through multiple layers: application, workflow, desktop, cloud, and backend architecture. IT quickly sorts and compiles even the largest data repository into useful datasets for researchers and caregivers.

Future Proof

Cloud-native services like artificial intelligence (AI)- and machine learning (ML))- drive innovation that accelerates imaging applications and easily accommodates new higher-resolution imagery. DCH plans to grow its cloud presence with Qumulo considerably and will use Qumulo for its planned VNA solution.

"Thanks to Qumulo's stability and performance, we've boosted productivity and no longer have to waste time troubleshooting storage and file issues. The Qumulo file data platform has radically simplified our file data management."

- Mike Brady