Driving digital services to enhance patient outcomes.

How **Shandong University Qilu Hospital** embraced a hyperconverged infrastructure solution from Lenovo and Nutanix, powered by 2nd Gen Intel® Xeon® Scalable processors, to support its next-generation digital healthcare services.

Lenovo Infrastructure Solutions for The Data-Centered

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Lenovo

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Background

Located in the province of Shandong, China and founded in 1890, Shandong University Qilu Hospital (QLH) is a 5,000-bed hospital system with in- and out-patient facilities in the cities of Jinan and Qingdao. With an objective to become a world-renowned center for medical research, QLH employs more than 10,000 people and operates a wide range of departments, including cardiology, hematology, neurosurgery, and pediatrics.

(2) Challenge

Like many leading healthcare providers, QLH has long embraced data-driven systems to augment its approach to patient care. As well as using a health information system (HIS) to efficiently and securely manage patient data, the organization relies on its laboratory information system (LIS) to rapidly process and deliver test results to its physicians. In addition, QLH uses its picture archiving and communication system (PACS) to process and display the massive volumes of data created by imaging modalities such as X-ray and MRI scanners.

Committed to innovation, QLH is always looking for new ways to enhance patient experiences and outcomes. Digital systems play a key role, and the organization is continually building new data-driven use cases to support its clinicians. With data volumes—and patient numbers—increasing year-on-year, QLH realized that its existing IT infrastructure would soon be unable to keep pace with rising demand for digital services.

Previously, the hospital relied on a traditional three-tier IT infrastructure to support its mission-critical health systems. With the previous server and storage systems approaching end of life, reduced performance and reliability were becoming significant risk factors. In addition, the legacy environment was difficult to restore quickly in the event of a recovery scenario—creating a significant threat of prolonged downtime if disaster struck. To solve these challenges, QLH decided to look for a robust, future-ready IT platform.

"As our IT environment aged, application response times for our end users were growing steadily. We were keen to find a new approach that would enable us to support both today's digital workloads and tomorrow's data-driven innovations."

Spokesperson
Shandong University Qilu Hospital

Why Lenovo? High performance with maximum availability.

After a thorough evaluation process, QLH selected a hyperconverged infrastructure solution from Lenovo and Nutanix to support its next-generation digital healthcare services. Based on a 16-node Lenovo ThinkAgile HX5520 Appliance equipped with high-performance 2nd Gen Intel® Xeon® Scalable processors, the new solution is virtualized using Nutanix AHV.

To deliver low-latency performance and support ever-growing volumes of healthcare data, QLH chose Lenovo ThinkSystem DM5000H Unified Hybrid Storage arrays and Lenovo DF1200 Distributed Storage solutions. Using Nutanix Prism and Lenovo XClarity software, the organization's IT team can manage all the compute and storage resources as a single pool—dramatically reducing management and maintenance requirements while enabling seamless scalability.

To enable lightning-fast recovery in the event of a recovery scenario, the organization deployed a brand-new production data center, and converted its existing data center into a dedicated disaster recovery site. Configured for active-active replication, the two environments help minimize QLH's recovery point and time objectives, dramatically reducing the risk of downtime and data loss.

"During the planning stage, the Lenovo team really took the time to learn about our needs in detail, which enabled them to design a solution that perfectly addressed our technical and operational requirements."

Spokesperson
Shandong University Qilu Hospital

Going live with surgical precision.

By collaborating closely with Lenovo Professional Services, QLH achieved a smooth transition to its new hyperconverged infrastructure. Today, the new platform supports almost all the organization's key digital healthcare use cases, including its massive PACS databases.

With the new platform in place, QLH is confident that it has the digital capabilities it needs to support projected growth in its information systems for at least the next decade. Moreover, by liberating its IT team from time-consuming infrastructure management and maintenance tasks, the organization is in a stronger position to accelerate the development and launch of new patient-facing services.

"Lenovo was by our side throughout the entire deployment and configuration process, and the team was always on hand to answer any questions we had. Lenovo's responsive and professional approach to communication, change management, and knowledge transfer helped us to keep the project moving forward quickly and smoothly."

Spokesperson
Shandong University Qilu Hospital

(3)

Results

With the hyperconverged infrastructure from Lenovo and Nutanix supporting its mission-critical services, QLH is free to pursue digital innovations in patient care. The organization has slashed the latency for its clinical applications, cutting response times for key services by a factor of 12[1] and creating the headroom for future data growth. Most importantly, the active-active data center configuration helps ensure that vital healthcare data is available and protected 24/7.

The new solution has been warmly received by QLH's clinicians and back-office staff. Users are reporting that their key healthcare applications are running more smoothly and reliably than ever, empowering them to deliver the highest quality of service for patients.

✓ **12x reduction in response times for key applications, contributing to more efficient and responsive patient services**

✓ **Creates the headroom for the next 10 years of data growth, supporting long-term development of digital services to enhance experiences and outcomes**

✓ **Enables rapid failover in the event of a disaster recovery scenario, helping to ensure critical data is protected 24/7**

[1] Data provided by Shandong University Qilu Hospital.

"We see Lenovo as a long-term partner for Shandong University Qilu Hospital. We trust the quality of Lenovo solutions and the experience of the Lenovo team—and we look forward to successful new collaborations in the future."

Spokesperson
Shandong University Qilu Hospital

What will you do with Lenovo data center infrastructure solutions?

The Data-Centered deliver high-quality healthcare with
Lenovo smarter infrastructure solutions, powered by Intel®.

Explore Data Center Infrastructure Solutions