Xuanwu Hospital Transforms into a Next-Generation Smart Hospital with Nutanix

Hyperconverged data center infrastructure streamlines healthcare workflow, improves patient engagement, and enhances management efficiency

INDUSTRY
Healthcare

BENEFITS
- High-performance solution doubles overall efficiency and enhances PACS application performance several-fold

- On-demand resource expansion reduces IT expenditures by 50%

- 24x7 technical support maximizes reliability and safety

- One-click visual IT management speeds resolution of information issues

BUSINESS BENEFITS

Deploying Nutanix Enterprise Cloud has dramatically enhanced the scalability of the Xuanwu Hospital infrastructure. Compared to traditional virtualization technology, Nutanix AHV delivers substantial advantages in performance, flexibility, and scalability. The solution enables the hospital to achieve its goal of maintaining smooth 24x7 operations, even during system expansion or operational changes.

SOLUTION
- Nutanix AOS

- Nutanix AHV

- Nutanix security

APPLICATIONS
- Picture Archiving and Communication System (PACS)

- Electronic Medical Records (EMR)

- Medical Research System

- Xuanwu Hospital App

"As people continue to aspire to better healthcare, it increasingly drives informatization about the medical industry. We hope to work together with Nutanix in developing a smart hospital to provide efficient, high-quality public healthcare to patients in the future."

– Liang Zhigang, Director of Information Center and Nuclear Medicine Department, Xuanwu Hospital

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Thanks to its highly reliable hyperconverged infrastructure (HCI), Xuanwu Hospital has reported zero down-time since the system was deployed. The stability of its infrastructure has dramatically improved and operational efficiency has doubled. Performance of the hospital's core application, Picture Archiving and Communication System (PACS), has improved several-fold, thereby greatly reducing waiting time, advancing diagnostic efficiency, and optimizing patient satisfaction.

CHALLENGES

Established in 1958, Xuanwu Hospital is a large Grade 3 and Class A hospital specializing in clinical practice and research on neuroscience and gerontology. Affiliated with Capital Medical University, it provides outpatient services to 8,000 people each day, and 38,000 surgeries every year. In addition to this tremendous workload, the unique demands of the healthcare industry have placed enormous pressure on Xuanwu Hospital's digital transformation.

"The healthcare industry must deliver 24x7 all-weather service throughout the year. To support nonstop service delivery, our IT infrastructure must provide a stable, dependable foundation for our medical work. Identifying appropriate informatization support with higher reliability and greater security is the biggest challenge for our IT team," said Director Liang.

Maintaining the confidentiality and integrity of its data is essential to the hospital's mission, and the facility has strict requirements in data security and disaster recovery. "As a government-led public hospital, the development demands must incorporate both management and governmental public administration," said Director Liang. "Therefore, only with real, transparent and secure data can our IT infrastructure play a positive role in the decision making of both hospital management and governmental administration. This was a key consideration for our transformation to a smart hospital."

As it evaluated new infrastructure solutions, Xuanwu Hospital needed a solution that could deliver both robust security and dependable backup capabilities.

SOLUTION

To address its challenges, Xuanwu Hospital was determined to rebuild its infrastructure and explore a digital transformation path towards a smart hospital. After rigorous comparison of multiple vendors and solutions, Xuanwu Hospital's partnered with Nutanix, the global leader of hyperconverged technology. Nutanix was unique in its ability to enable rapid deployment and seamless migration.

Xuanwu Hospital Information Center has migrated its core medical applications such as PACS, EMR and Medical Research System to Nutanix Enterprise Cloud. Building on its flexible scalability feature and worry-free operation, Xuanwu Hospital is planning to gradually migrate additional systems, such as the Xuanwu Hospital App, to its new infrastructure.

CUSTOMER OUTCOME

Nutanix Enterprise Cloud has greatly enhanced the scalability of the Xuanwu Hospital IT system. Overall efficiency has doubled and PACS application efficiency has increased several-fold. The scalable solution lets the hospital easily expand its computing and storage resources of the entire platform simply by adding new nodes, without interrupting services.

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"Initially, we chose Nutanix as our long-term strategic IT partner because of its leading position in hyperconverged technology and spectacular performance during the screening process," said Director Liang. "But the actual results after its launching have outperformed the expectations. The PACS imaging as the hospital's core application reported five-time improvement on efficiency. The overall operational efficiency nearly doubled as well. It's really a great surprise to us," said Director Liang.

Nutanix Enterprise Cloud provides convenient one-click management, as well as robust disaster recovery, providing a solid foundation to support 24x7 uninterrupted operation. Since deploying the new solution, the hospital has experienced zero IT system failures. Advanced management alerts can warn administrators of potential issues before they impact operations. The Nutanix dedicated technical support team is on call on a 24x7 basis, ensuring smooth IT operation and maintenance, and further assuring continuous delivery of healthcare operations.

Utilizing automated storage management through a unified user-friendly interface, IT can expand online at any time, without time-consuming daily tasks. Operations and maintenance are much simpler and more efficient than ever. "Nutanix can manage queries via unified interface from storage to virtualization," said Yin Jianfeng, Head of IT at the Xuanwu Hospital Information Center. "Previously, our technicians had to check every physical machine manually. But now we can trigger intelligent queries with a single click. The advantages of the Nutanix HCI are self-evident."

Nutanix's built-in auditing function supports real audit tracing and rapid positioning under operational supervision, resolving an issue that had plagued the IT team in the past.

Under the traditional infrastructure, the Information Center of Xuanwu Hospital required three IT professionals for daily operation and maintenance. Today, a single staffer can handle the responsibility, freeing its team to focus on medical work development. The new solution has enabled the hospital to not only improve work efficiency but also reduce the labor cost by at least 65 percent. The highly extensible solution also enables Xuanwu Hospital to scale out its physical nodes on demand to support strategic healthcare needs, moving beyond expensive one-off IT investments. Combined with many other advantages such as space saving, the overall IT costs of Xuanwu Hospital have been reduced by at least 50 percent.

NEXT STEPS

To continue its journey toward a smart hospital, Xuanwu Hospital will further upgrade its innovative HCI, shifting additional core applications, including its healthcare information system (HIS) to its new infrastructure. Xuanwu Hospital is confident that Nutanix Enterprise Cloud will enable the organization to meet the digital challenges of smart healthcare in the future.

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