

# Seoul National University Bundang Hospital Innovates Healthcare System with Nutanix

Seoul National University Bundang Hospital Improves the Complex Hospital Information System and Increases Application Performance to Provide Medical Services 24/7 on Nutanix Cloud Platform

Founded in 2003, Seoul National University Bundang Hospital (SNUBH), having more than 1,300 inpatient beds and 5,400 employees, is the very first paperless, fully digitized hospital in Korea. SNUBH is recognized as a “Smart Hospital” that advocates state-of-the-art healthcare IT technology.

The hospital built a private cloud environment around Nutanix. SNUBH saved a significant amount of time, effort, and resources on IT management and improved clinical and business application performance and speed to ensure medical service continuity for improved patient experience and medical treatments.

“Our partnership with Nutanix represents SNUBH’s commitment to exceptional medical services and showcases our best practices involving advanced IT. The Nutanix deployment had helped us achieve the Stage 7 HIMSS accreditation. With proven performance and enhancement, Nutanix was the right choice for our ongoing private cloud journey”

- Ho-Young Lee, M.D., Head of Medical Information Department at Seoul National University Bundang Hospital

## INDUSTRY

Healthcare

## BENEFITS

- Improved Electronic Health Record (EHR) response time (BestCare 2.0) by 20% to 0.08 seconds
- Improved performance of DR application by 30%
- Leveraged simplicity and scalability to improve clinical and IT workload performance throughout the continuum of care
- Relieved healthcare IT staff to focus on clinician productivity and delivering better quality patient care
- Reduced physical datacenter footprint by 80%
- Reduced infrastructure upgrades from days to hours

## SOLUTION

- Nutanix AOS
- Nutanix Prism

## Applications

- Electronic Health Record (EHR), BESTCare 2.0
- DR application
- Electronic Signature

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## CHALLENGES

Unlike other industries where downtime could be acceptable during weekends or overnight, hospitals must ensure business continuity to provide medical care 24/7, especially in the emergency department. Also, the hospital information system is extremely complex – the registration and scheduling system, orders, nursing staff, laboratory and pathology results and a vast amount of sensitive patient information and data are stored and updated regularly. The information system must guarantee instant scalability in this unique environment where medical service directly affects patients' lives.

However, SNUBH's existing aging infrastructure faced issues of security, complexity, and inefficiency in running business-critical and life-critical applications. In fact, its 38 workloads were run in different operating systems, needing to be checked and upgraded one by one by skilled technical personnel. Identifying which resources needed scale-ups and managing them individually consumed too much time and too many IT resources. Since the IT staff could not monitor the real-time usage and status of IT infrastructure, they needed to standby constantly in the event of any unexpected failures or surging demands.

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## SOLUTION

To solve these problems, SNUBH redesigned and replaced its aging infrastructure and migrated to a private cloud environment with Nutanix HCI. SNUBH worked with Nutanix to deploy Nutanix HCI as the core technology behind its healthcare innovation to enhance the clinician experience as well as the patient care experience.

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## CUSTOMER OUTCOMES

### [Leveraged simplicity and scalability to improve clinical and IT workload performance throughout the continuum of care](#)

SNUBH now benefits from one-click simplicity, speed, scalability, easy provisioning and single-console monitoring and management in real time. "I was mesmerized by the concept of Nutanix HCI that can manage everything on a single management tool and is extremely easy to scale up by just adding more nodes. Nutanix puts constant efforts toward developing advancing new technologies for the customers even though it is already the leader of HCI technology. We were confident that with Nutanix, our hospital can develop and advance together," said Ho-Young Lee, M.D., Head of Medical Information Department at Seoul National University Bundang Hospital.

### [Healthcare IT staff can now focus on clinician productivity and delivering better quality patient care](#)

Nutanix freed SNUBH's IT staff from complex and inefficient procedures for workload provisioning. Upgrades that used to take days are now completed in a matter of hours thanks to the high performance of Nutanix. Even non-IT personnel can easily leverage the intuitive monitoring dashboard of Nutanix Prism to check the current usage and resources. Thus, the IT staff can now concentrate more on how to improve the medical system and quality of patient care as well as to explore new business opportunities instead of having to oversee and manage the entire infrastructure.

### Improved performance of clinical and business applications for a fast and accurate healthcare experience

The performance tests for SNUBH's Electronic Health Record (EHR), BESTCare 2.0, which tracks and monitors patient data including blood tests, test results and medical records for cooperative diagnosis and treatments as well as medical research, showed that the response time of the viewer system has improved by 20% from 0.1 to 0.08 seconds, while the performance of its disaster recovery application has improved by 30%. The hospital also reduced its physical datacenter footprint by 80%.

"The software-defined solution from Nutanix was highly compatible with any hardware and it noticeably improved the overall hardware performance. For instance, when we had to reboot the text messaging system that notifies the medical staff when there is an issue from the Critical Value Report (CVR) result, we expected it to take 30 minutes to 1 hour, but took only 15 minutes, much faster than expected."

Furthermore, the clinical staff now experience faster and more seamless access to heavy workloads such as clinical imaging, charts, and test results – enabling faster decision making for patients in critical conditions. Due to low downtime, it can provide medical services 24/7.

### SNUBH recognized as one of the most advanced and digitized hospital in the world

SNUBH solidified its position as a leading digital hospital recognized worldwide. With the continuous investment in IT including Nutanix deployment, it has achieved Stage 7 accreditation three times in a row, which is the highest grade from HIMSS (Healthcare Information and Management System Society), the world's largest certification organization that assesses the level of technology adoption for healthcare organizations. Notably, SNUBH is the first non-U.S. hospital to receive this level of accreditation. This "smart hospital" with cutting-edge healthcare IT technology delicately serves patients at the foremost, promising patient safety and convenience during hospital visit, hospitalization, and treatment.

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## NEXT STEPS

SNUBH plans to further expand the private cloud environment to secure a stable infrastructure that can solve when failures occur. With the leading global hospital information system, the hospital aims to become a digital hospital at the forefront of healthcare advancement in Korea and globally.



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