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### Sogang University

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<th>INDUSTRY</th>
<th>Education</th>
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**SOLUTION**

- **Enterprise Storage, Modular Storage, Business Continuity and Replication, Virtualization**
- **Hardware** — Hitachi Universal Storage Platform® VM, Hitachi Adaptable Modular Storage 2300 and 2100 (Hitachi legacy storage: Hitachi Workgroup Modular Storage 100, Hitachi Network Storage Controller 55)
- **Software** — Hitachi Storage Navigator Modular 2, Hitachi Dynamic Provisioning
- **Services** — Provided by Hitachi TrueNorth™ Partner Hyosung Information Systems
Sogang University Builds IT Infrastructure on Hitachi Technology to Support Academic Traditions of Excellent Intelligence

A prestigious private institution in Korea, Sogang University produces society leaders under its strict education standards. The university was established by the Society of Jesus in 1960. It provides an education based on Catholic belief and inspired by the Jesuit educational philosophy, in conformity with the Korean tradition of education. In 2009 at its 50th anniversary, Sogang University announced “Vision 2035” (The Remarkable Sogang & Vision 2035), aiming to take the next leap forward with storage technology that supports its educational excellence. Having already set the stage years earlier with legacy Hitachi storage, the university confidently moved ahead with Hitachi enterprise and modular storage solutions for business continuity and virtualization.

From its earliest stages, Sogang University has been offering new paradigms in university education. These innovations include international curriculum, optimal faculty-student ratio, and application of sabbaticals for professors for the first time in Korea. In 1970, the Ministry of Education granted a university charter, making Sogang University a full university, 10 years after its establishment. As of 2012, the university has 8 departments and 11 graduate programs, with 14,800 students enrolled. The university was selected by the QS (Quacquarelli Symonds) Asian University Ranking in employer reputation category as the No. 1 Korean private institution in 2009. It has been successfully continuing the legacy of “qualitative prominence” established by Jesuit universities throughout the world over the last 460 years.

The Next Leap: Deploy Innovative IT Infrastructure

Vision 2035 aims to strengthen Sogang’s unique, well-rounded education and creative educational competency. The vision also seeks to build convergent industry-university cooperation, promote leading internationalization, and realize efficient school administration. IT infrastructure plays a very important role in moving forward with its Vision 2035 plan. The goals of promoting leading internationalization and realizing efficient school administration are directly related to the IT system. Even before its Vision 2035, Sogang University has been famous for recognizing the importance of technology and for its innovative IT systems.

A History With Hitachi Data Systems

In 2005, Sogang University recognized its IT environment suffered from the silo effect. Data was stored in many different servers, which caused discrepancies and duplication in data among different departments. To solve these issues, the university implemented Hitachi Thunder 9585V™ modular storage. Hitachi TrueNorth™ Partner Hyosung Information Systems (HIS) brought this system to the university in 2005 as the main storage system for integrated information and service and groupware. Also, it deployed Hitachi Workgroup Modular Storage 100 for web disk tasks, and built an integrated data management system. In 2006, the university completed building a remote disaster recovery system for its integrated information service with Thunder 9585V.

In those years, Korean universities generally chose a specific storage brand. Sogang University asked, “Why?” It began reviewing various other products. The university discovered that Hitachi storage is used mainly by those industries, such as finance, which require higher reliability, and positively considered the product. “Hyosung Information

Managers of Sogang University’s IT Systems Operations Team: Hyo-chul Kim (Left) and Shin-hwan Lee (Right)
Systems, which provides Hitachi products, had an excellent customer support system built from its long years of experience in dealing with finance industry. The proposals, which reflected their confidence in the stability of the products, were very impressive,” said Shin-hwan Lee, a manager of the IT Systems Operations Team at Sogang University.

In 2009, its 50th anniversary, Sogang University reinforced its IT system as the building block of its Vision 2035. The university implemented SAP Enterprise Resource Planning (ERP), which was not known widely among Korean universities during the time, as its administrative system. Also, it built disaster recovery system to manage its ERP data and ensure stability. Sogang University focused on data integrity when it built its disaster recovery system. To meet the standard, it built backup storage in the Loyola library subcenter, which was located separately from the information communication building. At this point, Hitachi Network Storage Controller (NSC) 55 was brought in for the main storage, and the Thunder 9585V was converted into a disaster recovery system. Hitachi Adaptable Modular Storage (AMS) 2100 was added and connected with to the SAN. In 2009, the university upgraded from NSC 55 to Hitachi Universal Storage Platform® (USP) VM. In 2010, storage for the disaster recovery system was also changed to USP VM, for more stability.

“It is true that we require more time for data recovery, since we deployed cold disaster recovery by connecting the physically separated main system and disaster recovery system with SAN. We thought integrity and reliability were more important for the university information system than being real time (which is more important for finance industry). It is more advantageous in terms of stability to have the same type of storage for both disaster recovery storage and main storage,” Shin-hwan Lee commented, regarding the standards Sogang University followed in building its disaster recovery environment.

Sogang University chose AMS 2300 modular storage for email, spam filter and storage for mail archiving because data stability is highly important for the university. With the uncertainty the future big data environment can bring, the university decided that data that seem currently meaningless also must be also managed properly.

Many universities do not have a disaster recovery environment due to limited budget. These universities back up data regularly. Sogang University’s disaster recovery system was built under a thorough review of the IT system managers, and it has been an excellent example for other universities.

Selection and Management Under Strict Standards
More than 100,000 professors, faculty, students and alumni are using Sogang University’s college administrative system. There are more than 57,000 database tables in its SAP ERP. Also, since it also has to manage the history, data size is huge and difficult to manage.

Since the university began using Hitachi storage, there is now less to manage. “Once, 1 of the disks broke down at night. In the morning, I found somebody from HIS waiting to change the disk,” recalled Hyo-chul Kim, an IT Systems Operations Team manager, who is in charge of email system management at Sogang University. He said that he was impressed with the Hi-Track® Remote Monitoring system from Hitachi Data Systems, which provides 24/7 remote monitoring.

Sogang University’s Information Communication Center builds a test environment every time a new technology comes out, and tries to manage it on its own. One example is virtual desktop infrastructure (VDI), which was getting popular for its cost-saving and system efficiency. VDI was reviewed under the test environment for actual deployment. The team decided it was too early to implement this technology.

New Challenges
In Korea, regulations about private information are becoming stricter. Therefore, Sogang University now also has to consider protecting information on not only its faculty and students, but also on its alumni. Therefore, it considered not only stability for its storage system, but also building a perfectly secure system. By building a security system, which only allows those users authorized by internally controlled computer to access the system, the university tries to eliminate all possibilities of accidents caused by both internal and external failure.

To accommodate private information regulations fully, Sogang University is positively considering Hitachi Content Platform (HCP), which provides “write once, read many” (WORM) storage. Lee said, “HCP WORM storage has an excellent architecture for private information management. We are at the stage of reviewing actual deployment.”

Sogang University, cultivated with the Society of Jesus’ intellectual excellence and spirit, is now taking the next leap with its IT system, to become the foundation to raise world leaders who seek “peaceful coexistence in 21st century.”