

# Hitachi Storage Solutions at Work

## X-Tention Informationstechnologie GmbH

**INDUSTRY** Services: IT Solutions for Health Care and Social Sector

**SOLUTIONS** Tiered Storage/Virtualization

**Hardware**—Hitachi Network Storage Controller™ model NSC55 (2) and Hitachi Adaptable Modular Storage model AMS500 (2)

**Software**—Hitachi Universal Volume Manager, Hitachi Device Manager, Hitachi Tiered Storage Manager, Hitachi Dynamic Link Manager, Hitachi TrueCopy® Remote Replication, and Hitachi Protection Manager, Hitachi Global Link Availability Manager software, and Hitachi In-System Replication software bundle



“With the tiered storage solution from Hitachi Data Systems, we can grow in a flexible and safe manner.”

*Harald Waibel  
Product Manager  
X-Tention Informationstechnologie GmbH*



# Ready for Growth, X-Tention Chooses Storage Solutions from Hitachi Data Systems

Medical devices have considerable IT requirements. After all, technical defects must not trigger any medical emergencies. For this reason, the Kreuzschwester clinic in Wels, Austria, and the X-Tention system house, its data management company that specializes in health-care systems, rely on storage solutions from Hitachi Data Systems.

The surgeon looks closely at the electronic X-ray image. The operation can begin. He double-checks the information of the machines and devices. Then he goes to work with the scalpel. He looks up for one more check. The X-ray image flickers for a split second. Then it returns to a clear, sharp image.

Was it a computer crash, data loss, or a server crash?

Information technology is finding its way into hospitals. Imaging techniques such as computer tomography, magnetic resonance, or ultrasound are stored electronically. The current inventory of the blood database can be called up by the click of a mouse. Besides the improved operations in the hospital and the increased convenience, data security must also keep pace. The hospital must also

be equipped so as to ensure that one system will immediately take over for another if it fails. This is the only way to prevent a computer failure from causing a medical emergency.

Due to the increasing use of technology in the hospital, Magister Raimund Kaplinger, director of the Klinikum Kreuzschwester GmbH in Wels, has set the requirement that "data security and availability must function 100 percent." For this reason, he has decided on a strategic investment for the largest hospital in Austria: Together, the clinic and the X-Tention system house, which manages the clinic's data, acquired a storage infrastructure from Hitachi Data Systems, a leading supplier of storage solutions.

In addition to multifaceted IT services, Herbert Stöger, manager of X-Tention, offers

storage space to his customers in the health care and social sector. He currently manages 35TB of data for his customers. And he anticipates a further increase of 50 to 60 percent in the amount of data per year. Says Stöger, "All of this data not only has to be optimally processed, but it must also be stored safely and securely for long periods of time: as long as 30 years, according to the legal requirement."

X-Tention, the system house in Wels, has been concentrating on IT planning, management, and software solutions in the health care and social sector for six years. X-Tention works for a number of medical institutions and has overall responsibility for the IT operations at five hospitals in Upper Austria.

Part of this work involves implementing the electronic patient history. This model is replacing the conventional hard-copy patient history. Another part is the recording, storing, and sending of electronic data such as X-ray images. These innovations contribute to an improved work flow in the hospital, to shorter waiting periods, and to more quality and reliability. At the same time, they lead to an increase of data.

## At the Limits of What Can Be Done

Because the previous growth of electronic data made it necessary to have a high-performance storage infrastructure, and the previous storage solution of X-Tention had reached the limits of what could be done, Kaplinger and Stöger made a strategic decision. First, Harald Waibel, product manager at X-Tention, defined the requirements for the new storage landscape: "The core of our high-performance storage system must be available 7 days a week, 24 hours a day, 365 days a year. The storage must be flexible, expandable, and scalable. This is a matter of life and death in a hospital."

After careful testing, X-Tention decided upon a tiered storage solution from Hitachi Data Systems. This consists of two Hitachi Network Storage Controller™ NSC55 models and two Hitachi Adaptable Modular Storage AMS500 models. The selection was based on two additional deciding factors:

- The mirroring of the storage at two sites with 2x35TB
- The controller-based virtualization of the storage solution

## Calculated over the run time of five years, the solution from Hitachi Data Systems provides the best price-to-performance ratio.

The advantage of virtualization is that critical data, such as patient findings, are stored on high-value Fibre Channel storage disks, and less important data, such as archived X-ray images, are saved on cost-effective SATA storage disks. The data groups can be easily managed using the tiered storage system and a user-friendly interface. With this solution, Hitachi Data Systems has a unique selling point that is held in very high regard by companies.

This solution from X-Tention has 2x35TB of storage space. The storage system is located at two locations on the premises of the Kreuzschwester clinic. This ensures that the storage system is fail-safe in the event of faults. There is a distance of 600 meters between the storage units, which are connected via Fibre Channel. Says Kaplinger, “As the largest auricular hospital in Europe, we treated more than 59,000 patients last year. This leaves us with a great deal of responsibility. Innovative medical institutions such as ours, with its 27 medical departments and institutes and more than 2,000 employees, need a modern way to safeguard their electronic data. Now we have one.”

## Daily Backup

Provisions have also been made in the event that the data is overwritten during daily operations and thereby deleted from the system. With the well-thought-out backup strategy, two snapshots of the most important data are taken daily. This does not store the entire mass of data, but only the most recent data or changes to existing data. This data is then stored on tape within the scope of a full backup. This makes it impossible to lose data.

Says Waibel, “With the tiered storage solution from Hitachi Data Systems, we can grow in a flexible and safe manner.” Thanks to the open interfaces and the virtualization from Hitachi Data Systems, older data storage units could also be used by integrating them into a system from Hitachi Data Systems.

## Good Price-to-performance Ratio

Calculated over the run time of five years, the solution from Hitachi Data Systems provides the best price-to-performance ratio. Even more important for X-Tention: With the exception of a few, short servicing periods during online operation, it was possible to migrate the existing 15TB of data. In addition, a service contract with a restoration time of one hour was concluded with Hitachi Data Systems. Says Waibel, “The surgeons in the clinic work with an electronic X-ray image. Therefore, the required availability of the images is nearly 100 percent.”

## The Solution in Detail

X-Tention uses a tiered storage solution from Hitachi Data Systems. This involves two NSC55 and two AMS500 models and software from Hitachi Data Systems:

### The NSC55

The Hitachi Network Storage Controller model NSC55 offers all of the enterprise functionalities in a modular, space-saving rack package, in order to correspond to the business requirements of innovative high-growth companies.

### The AMS500

As the core of the Hitachi series of midrange systems, the Hitachi Adaptable Modular Storage model AMS500 offers high scalability, performance, and availability. With numerous high-end functions, such as cache partitioning and RAID-6, the AMS500 models are ideally suited for innovative companies.

### The Software

This solution's software from Hitachi Data Systems includes: Hitachi Universal Volume Manager, Hitachi Device Manager, Hitachi Tiered Storage Manager, Hitachi Dynamic Link Manager, Hitachi TrueCopy® Remote Replication, and Hitachi Protection Manager software, as well as Hitachi In-System Replication software bundle. Brocade SAN software was also used in the solution.

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SS-078-00 DG July 2007