

Silent Cubes Success Story

Project: HSK Wiesbaden

Solution: NEXUS PACS

Partner: NEXUS / DIS GmbH

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Nicole Tengler, System Administrator, HSK Wiesbaden

Dr. Horst Schmidt Clinical Center relying on Silent Cubes for revision-safe long-term archiving of images and diagnostic findings



Storage solution from FAST LTA and image management from NEXUS ensures highest security and fast data transfer

Even beyond the Radiology Department, modalities which primarily supply digital pictures, mainly in the outpatient clinics of the Dr. Horst Schmidt Hospitals (HSK), are growing in importance, specifically the Urology, Gynecology and

Gastroenterology outpatient clinics. "In today's world, having a digital image data communication and archiving system is indispensable to being able to effectively review and archive images," explains PACS and system administrator Nicole Tengler. X-rays concurrently exposed, distributed and interpreted on film would ultimately end up being filed on shelves stretching yards upwards and sideways along with all the other records on a patient. "That all translated into a great deal of effort and very high costs," notes Tengler. In addition, images could only be distributed when the Records Dept. was staffed, and images or diagnostic findings which were accidentally misfiled in the wrong X-ray sleeves would be lost forever. Today, all the images are available digitally and any authorized doctor can call them up 24/7 from any workstation within the entire network.

Long-term archiving an essential component of image data communication

The PACS project started with a European-wide call for competitive bids. Even at this stage, the revision-safe, long-term data archiving solution was an essential component. The systems had to meet the high demands HSK places on the quality and procedures of its medical science, care and economics. After the last round of bidder discussions were held, the decision was made to go with the PACS from NEXUS. "In our PACS projects, the disk-based Silent Cube storage units from FAST LTA are the solution of choice when customers need absolute integrity in their long-term archiving," explains Jens de Jonge, Director of Sales for NEXUS / DIS GmbH. Both systems have now been in use in Wiesbaden since late summer 2009. Radiographs are now distributed effortlessly throughout the hospital and external image data can be integrated into the PACS using a CD import module.

“The in-house radiological practice required us to create a special X-ray workflow. After patient examinations are made in Radiology/Radiotherapy, that data is saved to their local PACS and then automatically sent to us. The findings likewise follow automatically according to the same model. This ensures that all of our patient image and diagnostic data is always available within the HSK,” explains Tengler. When an image is called up on the monitor, any previous images are also brought up for viewing as needed right along with it.

Silent Cubes offer multiple advantages over other archiving concepts

When a clinic uses a digital system, it is also dependent on digitally archiving the medical data. “The data needs to be revision-safe, meaning it has to be fully guaranteed against any alteration, and it must be legally compliant for up to 30 years. Also, the data needs to be stored in compliance with the regulations of the Radiation Protection Ordinance on saving X-ray exams and certified as such. That inevitably requires a great deal of know-how and experience on the part of the vendor,” explains the PACS Administrator on the challenges faced in long-term archiving. The images also need to be able to be displayed and evaluated 30 years down the road.

Hard disk-based solutions are steadily replacing tape and optical media in all realms of data storage. To date, however, such systems were usually not suited to long-term storage. Silent Cubes is the first storage system to be expressly developed for the secure, long-term storage of permanent data from the very start. “It was evident to us that the concept was conceived to be thoroughly viable into the future and provided very high security. Since each Cube uses four hard disks from three different manufacturers, there can essentially never be any data loss due to series production defects,” observes Tengler. Silent Cubes have an impressive quadruple redundancy. Augmented by an advanced WORM Controller to protect the content of all the hard disks against deliberate or inadvertent deletions and/or manipulations at the very lowest hardware level. “Last but not least, the price/performance ratio was a very positive factor for us. The system can be easily and economically expanded and its low energy consumption gets high marks.”



*Nicole Tengler, System Administrator,
HSK Wiesbaden*

Silent launch and smooth operation

In keeping with its name, the installation of the Silent Cubes at the Dr. Horst Schmidt Hospitals ensued as silently as its operation. Daily status emails enable Administration to always stay informed about the volume of data archived each day. Should data transfer problems ever arise, a corresponding message is automatically sent to FAST LTA so the service team can immediately set about rectifying the problem.

The support and service contract HSK concluded with FAST LTA is also known as the “Worry-Free Package.” One of its main features is the Silent Cubes early warning system designed to send regular reports to the service center of the Munich-based company. This keeps them informed about system status at all times. The service contract

guarantees the hospitals that any potential problem which might arise will be remedied on-site by a staff technician – without needing to take any part of the HSK system offline and without losing any data whatsoever.

The redundant short-term archiving of all the data is provided by the in-house Storage Area Network (SAN). All the images taken over the course of a day are then copied nightly to the long-term archive. “Accessing older films is super quick and easy because the way the Silent Cube connects to the PACS server, it functions like an external hard disk. Meanwhile, an internal system link allows us to quickly retrieve any images within the system right from the diagnostic software,” adds Tengler.

An archiving alternative, although one which HSK never seriously considered, would be a DVD jukebox. But these systems require constant changing of the DVDs and are very prone to errors caused by mechanical wear. “Should our SAN fill to capacity after a year, all we need to do is just add a second Cube. We would then likely mirror the installation at a second location for maximum security against fire or water damage,” relates the IT expert.



Expertise and experience a key factor

In summing up his experiences, de Jonge notes that “FAST LTA stands out from the rest based on its extensive expertise in the field of long-term archiving as well as its very good support performance and high degree of flexibility. Silent Cubes win you over with their trouble-free expandability and scalability as well as their data replication options. In other words, they combine long-term archiving and online data storage for one low price. Topped off by their low energy usage, they are an ideal solution to replace the known offline processes including DVDs.” Nicole Tengler is also entirely happy with the Silent Cubes decision: “We have never regretted purchasing this solution. There hasn’t been a single problem from Day One. We would not hesitate to recommend FAST LTA or Silent Cubes to anyone else.”

Dr. Horst Schmidt Clinical Center

Located in Wiesbaden, the Dr. Horst Schmidt Clinical Center (HSK) is a teaching hospital of the Johannes Gutenberg University of Mainz providing maximum care under the auspices of HSK Rhein-Main GmbH. With its three hospital facilities and three service companies, the HSK Group generated a combined revenue of approximately 206 million Euro in 2008. There are 21 separate clinics, four institutes and a major medical care center at the Ludwig-Erhard-Straße location. With its 1,052 beds, the hospital handles close to 50,000 inpatient and 110,000 outpatient cases each year. The affiliated Radiology/Radiotherapy group practice provides all of HSK’s radiological diagnostics.