

CASE STUDY

INDUSTRY: HEALTHCARE

APPLICATION: MEDICAL
IMAGE ARCHIVE

INTEGRATOR: GE[®] MEDICAL

SOLUTION: CENTRICITY[®]
PACS SYSTEM WITH PLASMON
UDO ARCHIVE APPLIANCE



*Medizinische Hochschule
Hannover depends on the
UDO Archive Appliance for
their image archive disaster
recovery strategy*

MHH Medizinische Hochschule Hannover



Medizinische Hochschule Hannover
Germany

The Organisation

Originally founded in 1965, the MHH is one of Germany's most respected and largest teaching hospitals. MHH admits more than 3,000 medical students each year and has a total staff of over 7,000 employees. In addition to extensive training and research facilities, the hospital also specialises in a number of disciplines including transplant medicine and immunology. With 1,400 beds, the hospital sees nearly 200,000 patient visits each year. Virtually a city of its own, the large MHH campus houses a range of specialized clinics in addition to student dormitories and a complete sports facility for patients and staff.

The Challenge

Each day the MHH performs more than 400 examinations that result in the creation of a wide range of digital medical images including CT, MR, CR, ultrasound, angiography, and nuclear medicine. Accessed by a team of more than 50 radiologists, these images are vital to diagnostics, treatment and research activities. While ultrasound images are small, high-resolution CT images can be as large as 600MB even after compression. This adds up to a daily storage requirement of 8.5GB and German federal law requires that all radiological images be retained for at least 30 years.

The growth of the archive, combined with the long retention period creates a potentially crippling IT burden. The hospital must meet their legal obligation to retain patient records for 30 years, but must do so in a way that ensures authenticity while minimizing maintenance and long-term operating costs. In order to tackle this challenge MHH needed to upgrade their existing PACS (Picture Archiving and Communications System) infrastructure to support greater storage volumes and provide a more robust disaster recovery strategy that prevents the loss of image records.

*"The UDO Archive
Appliance has proven
itself as a very reliable
solution and we are
confident that UDO
provides the best possi-
ble media technology
for archiving our
patient images."*

Stefan Bartels,
Project Manager,
Medizinische Hochschule
Hannover, Germany

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The Solution

After a detailed evaluation, MHH selected a GE Centricity PACS solution using Plasmon's UDO Archive Appliance to secure their images in the event of system or site disaster. MHH has experience with optical technology, using earlier generation Plasmon MO libraries with a content management system from Ceyoniq for administration and patient records. The optical technology proved so reliable that MHH insisted on using it again for their new PACS environment.



"MHH specifically requested that we use UDO technology for their disaster recovery strategy," commented Ulrich Uetz, Support Manager for GE Medical. "Tape does not provide the media life they need and disk based archive systems are too expensive. UDO was the obvious choice."

The GE Centricity software manages all the images created by the different medical modalities and initially stores them on a primary magnetic disk archive system. Once created, a copy of each image is sent to the UDO Archive Appliance. This dynamic replication process ensures that a disaster recovery copy is always available on Write Once UDO media, providing both longevity and record authenticity.

The UDO Archive Appliance selected by MHH was an AA174, which has more than 5TB of archive capacity and required less than one day to install. Using a three-tier archive strategy, MHH begins with 28TB of first-tier, primary disk archive. Image copies are written out to the second-tier UDO Archive Appliance. As it fills, MHH takes the oldest UDO media off-line creating the third-tier of the archive. The off-line media is then stored at a protected location to be recalled when needed. The robust nature of removable UDO media allows MHH to create an extremely cost-effective "deep archive" that easily accommodates capacity growth.

To ensure that their disaster recovery strategy is as resilient as possible, the AA174 and the primary archive were not colocated in the same building. Instead, the UDO Archive Appliance was installed at another facility on the other side of the hospital campus. Since the UDO Archive Appliance uses a standard network attached interface, MHH deployed the system on their existing 100mb Ethernet network. No special network infrastructure or training was required.

In the event of a major site or system failure of the primary archive, GE's Active Server Management resources immediately identifies faults and would rely on the AA174 and the secure off-line media to rebuild the MHH image archive.

Conclusion

While the size of the MHH medical image archive may be larger than other facilities, many of the issues they face are common to hospitals around the world. Improved medical imaging technology is creating better diagnostic tools, which consume more storage capacity. At the same time, national and international regulations require that these images be retained for longer periods of time. Hospitals must find a way to balance their regulatory obligation with their limited budgets and resources.

MHH's choice of the GE Centricity PACS in combination with the UDO Archive Appliance represents a well-defined solution that addresses both technical and operational requirements. As the disaster recovery piece of the strategy, the UDO Archive Appliance has proven to be very reliable and the UDO media delivers a level of image life and authenticity that is far superior to other technologies. The UDO Archive Appliance allows MHH to meet their compliance obligations in a cost-effective way while protecting their image assets and the lives of their patients.

