INSELSPITAL.
HIGHLY AVAILABLE AND SECURE IMAGE DATA FROM THE INTERNET.

At Inselspital in Berne, T-Systems provides doctors with radiology images on their tablets.

During visits, doctors call up the patients' data and X-rays with their PDAs or tablets online from the clinic network in order to provide them with targeted care. This is only an example of how ICT (information technology and telecommunications) improves processes in the hospital. T-Systems has operated the ICT infrastructure for the Swiss Inselspital for over a decade. This also includes various storage solutions and applications. Since September 2011, the ICT service provider has also operated the central data storage for radiology images. It replaces the previous storage solution which had reached its maximum capacity. Rather than investing in a costly exchange of the legacy system, Inselspital currently only pays for the storage space actually required.

AT A GLANCE

- Secure long-term archiving of medical image data in the hospital grounds
- Migration of around 80 Terabytes of image data from a legacy system to virtual online storage
- 50 percent more storage volume
- Payment only for storage space required
- Smooth transition without disruptions to the clinic processes
- "Best of breed" globally: PACS from Philips, storage by NetApp

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THE REFERENCE IN DETAIL.

THE CUSTOMER.

Inselspital in Berne is one of Switzerland's most prominent university hospitals. The clinic has acquired an international reputation as a medical science center. This is particularly so in the specialist areas of heart and vascular surgery. It is the country's leading hospital in terms of cardiology, neurology and oncology. More than 7,100 employees including 1,200 doctors and scientists work in Inselspital's 37 clinics and institutes.

THE TASK.

Inselspital treats over 250,000 patients per year. Equally large is the volume of digital recordings from imaging devices, which include, for example, X-ray apparatus and (CT) computed tomography scanners. New image material arrives daily.

The previous memory for the recording system, in technical terminology "PACS" (PICTURE ARCHIVING AND COMMUNICATION SYSTEM), contained around 80 Terabytes (81,920 Gigabytes) of data. In comparison: On average, commercially available hard drives for end consumers offer 160 Gigabytes of storage capacity.

Until now, the memory was located at a provider outside the hospital grounds. At some point the maximum available storage was reached. The hospital therefore faced the question of whether it should procure a new system or whether it should take another approach. As T-Systems already reliably operated a large proportion of the storage systems on the campus of the hospital from a single source, the CIO also handed over the responsibility for PACS storage to the ICT service provider. This took place under very strict conditions: The new solution had to provide significantly more storage capacity than the legacy system but at a lower cost, while offering the same functions as before, being capable of processing new material more quickly and, last but not least, being highly failsafe.

THE SOLUTION.

For the new PACS solution, T-Systems could not revert to the existing central storage for other applications and information already on the campus due to the high volume of image data. A CT scan is between ten and twenty Megabytes, whereas an e-mail is a few hundred kilobytes.

Deutsche Telekom's corporate customers department therefore switched the legacy application to a more powerful storage solution from NetApp. This required the technological equivalent of open heart surgery: During the migration phase, all 80 Terabytes of data had to be fully available at all times so that the doctors could continue to use all imaging devices and memory undisturbed. T-Systems gradually copied all newly created image data and appended it with patient data to the new system in parallel. After six months, the switchover from the legacy to the new application was completed during a maintenance window.

Now, T-Systems operates the NetApp solution as well as the PACS from Philips in the data center in the hospital grounds and provides the network infrastructure which transports all image data. The service also includes the maintenance and support of the solution.

THE BENEFITS.

Inselspital in Berne now has a high-availability, scalable and secure PACS solution. It has 50 percent more capacity than the data volume, which has grown to around 130 Terabytes, and can be enlarged to eight times its current capacity.

The security level of the solution is also very high: T-Systems has implemented two identical memories in the hospital grounds, while a third is used solely for backing up data. If, in the event of a disaster, both of the mirrored main systems fail, all information can be restored via this data backup.

At the same time, Inselspital saves on costs, as it only obtains memory when required and does not have to invest in the systems provided by T-Systems itself. "Therefore, at a relatively low cost, we benefit from solutions from world-class providers such as NetApp, Philips and Deutsche Telekom," says Martin Graf, head of IT at Inselspital. "The international network of competent partners convinced us that assigning the PACS to T-Systems was the correct decision."

The storage applications of the virtualization specialists from NetApp are known for their lower costs and energy consumption compared to other storage solutions, as well as better utilization of resources.

The U.S.-based company guarantees customers that with NetApp's own systems, they will save or free up at least 50 percent of the storage space that would otherwise be required. This is achieved through less use and more performance. At the same time, they help protect the environment due to the lower energy consumption.

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