“We believe it is extremely important to take the appropriate care when choosing new systems. In addition to an increase in capacity, the main reason for the new procurement [Hitachi Adaptable Modular Storage 2500] was therefore the cost savings that could be achieved.”

Dipl. Ing Romed Giner  
Head of IT  
TILAK

TILAK — Tiroler Landeskrankenanstalten GmbH

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TILAK Finds More Time for Patients with Modern IT Infrastructure from Hitachi Data Systems

Compared with most other health systems, the Austrian health system is in relatively good shape. However, like many industries around the world, it faces challenges and cost pressures of high levels of growth in data volumes, complying with statutory retention periods, the long-term archiving of data and the often varied application landscape. Tiroler Landeskranankenanstalten GmbH (TILAK) was able to configure its entire IT infrastructure efficiently and produce a high-capability system while addressing all of these issues. TILAK opted for Hitachi Adaptable Modular Storage (AMS) 2500 to meet its storage requirements.

TILAK's Beginnings

Managing the Tirol regional hospitals involves the running and upkeep of the hospitals, as well as any expansion required, including the schools and courses set up there in accordance with the relevant legal requirements. According to the transfer agreement, the business is responsible for providing modern, needs-based medical care for the citizens of Tirol, while ensuring that the requirements of the country and the statutory healthcare mandate are met. As part of this expansion agreement, the Landes-Pflegeklinik Tirol (Tirol regional care clinic) commenced its operations under the umbrella of TILAK in 1999. Tiroler Landeskranankenanstalten GmbH founded subsidiaries with the operators of the hospital in Innsbruck (2001) and the Bezirkskrankenhaus Schwaz (Schwaz district hospital) (2002).

The Universitätskliniken Innsbruck (LKI — Innsbruck University Hospital), the hospitals in Hochzirl and Natters, and the Landeskrankenhaus Hall (Hall regional hospital) have all had a standardized IT system since 1991. When TILAK was founded in 1990, all areas relevant to the regional hospitals were brought together and, in 1991, left the public administrative domain. Finally, TILAK took over the management of all 4 regional hospitals.

Over the course of the next few years, further establishments joined the business. Each of these institutions had to be integrated into the TILAK IT system, while cost pressures continued to be a constant focus for daily operations.

The expanded infrastructure was also relatively complex, in part due to the numerous connections of other establishments. Nevertheless, TILAK succeeded in pursuing a clear, straightforward concept within its IT management; 2 data centers, 1 in Innsbruck and the other 15 kilometers away in Hall, provide fail-proof operation across an area of 170 square meters in each location. The connection is made using 2 different lines with a bandwidth of 10Gb or 8Gb. The healthcare specialist uses a VMware-based solution to virtualize its clustered blade server landscape. This provides IT with the means to run numerous applications, from the picture archiving and communication system (PACS) to various databases and the business systems.

TILAK was already using virtualization for its memory requirements; a software-based FalconStor solution was included in the data center concept due to the large volumes of data from the diagnostic imaging procedure. In spite of the core capability of the existing IT structure, this concept did not allow for further growth. The memory, in particular, lacked the necessary flexibility to handle increased data volumes within the structure that was in use. The memory was allocated and the existing systems had reached their limits.

Cost-awareness in All Areas

There were, and still are, many reasons for the rapidly increasing data volumes, including integration of different establishments into the system and data-intensive diagnostic and

“Working at over 89,000 IOPS, the [AMS 2500] memory systems are very fast and offer extensive scale-up capabilities.”

Dipl. Ing Romed Giner
Head of IT
TILAK
SUCCESS STORY

The amount of data we store is increasing on a massive scale. We are therefore under a certain amount of pressure to scale up our capabilities,” says Head of IT at TILAK, Dipl. Ing. Romed Giner. “Nevertheless, we believe it is extremely important to take the appropriate care when choosing new systems. In addition to an increase in capacity, the main reason for the new procurement was, the cost savings that could be achieved.”

With these requirements in mind, TILAK released a public tender in 2010. At the end of the selection process, TILAK had chosen Kapsch BusinessCom AG and Hitachi Data Systems (part of the Hitachi Group, which celebrated its 100th Anniversary in 2010). Kapsch with HDS received an order for a total of 4 Hitachi Adaptable Modular Storage (AMS) 2500 systems. They installed 2 at the Hall data center and 2 at the Innsbruck data center.

A further requirement was that the new systems had to be integrated quickly and easily into the existing infrastructure. “It was important for us to offer TILAK a system that could be integrated very quickly, was scalable and would also be able to fulfill the demands on a highly available storage system in the future,” explains Head of the Tirol Kapsch office, Ing. Günter Rauter. “In the end, we have been able to complete the entire project, from installation to migration to commissioning, in around 2 months.”

Scalability for Data Growth

As volumes of data are increasing in terms of both administration and medical records, by purchasing AMS 2500, TILAK has acquired the most capable extended version of the midrange series Hitachi has produced. “The increase in volumes of data held within the health sector is enormous, with experts anticipating that the volume of data will quadruple every 2 years. Thanks to the highly scalable and equally available AMS 2500 memory infrastructure from Hitachi Data Systems, TILAK is thoroughly prepared for current and future data management challenges,” says Ing. Mag. Andreas Schlecht, who is responsible for Healthcare & Life Sciences at Hitachi Austria. The AMS processor is part of the enterprise memory series from Hitachi Data Systems and allows the AMS 2500 to work at up to 89,000 IOPS, as well as offering extensive scale-up capabilities — theoretically extending into the petabyte range.

Although the built-in capacity is not yet this large, since the migration, the 4 TILAK AMS 2500 systems actually offer a total of 575TB of memory. The systems use high-capacity SAS hard drives, each providing 450GB of capacity, as well as more cost-effective SATA drives, which each provide 1TB. Each AMS 2500 is equipped with 32GB of cache memory so that the capability of the whole system can be used to its full capacity. By expanding the existing IT infrastructure, it was also possible to increase the net capacity of the memory system while keeping overall size the same. “Of course, this has a positive impact on the price-performance ratio,” says Giner. Furthermore, the storage space can also be made available more quickly. Giner also finds it remarkable that the integration was completed so smoothly: the project was completed silently in just 2 months.

Equipped for Today and for the Future

When those involved in the expansion project look back over all that has been achieved, they are encouraged about the possibilities for the future. Time and cost expenditure were kept to a minimum in accordance with strict requirements, meaning the next phase of expansion work can also be carried out in a similarly efficient manner. As things currently stand, this work could take place in just a few months if data volumes continue to increase at the current rate. But Giner is not worried: “We are ready, and so are our partners.” The systems from Hitachi are, in any case, 24 hours a day, 7 days a week, 365 days a year.