iTernity

TÜBINGEN UNIVERSITY HOSPITAL

REDUCED COSTS, INCREASED PERFORMANCE

ESTABLISHMENT OF A NEW ARCHIVING SYSTEM AT TÜBINGEN UNIVERSITY HOSPITAL

"The main advantages of iCAS are its flexibility in terms of infrastructure and its open interfaces which enables us to integrate it into other systems in the future."

Steffen Sick, Head of Infrastructure Department, Tübingen University Hospital

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TÜBINGEN UNIVERSITY HOSPITAL

Industry:
Healthcare

Background:
The legacy archiving solution had reached its performance and profitability limit. A new solution was searched based on the Hospital's requirements. Besides technical factors, existing certifications and relevant references of the solution were decisive for the Hospital.

Challenge:
The new system should be hardware-independent, flexible and scalable. The challenge in the field of digital archiving and data management was the migration from the old archive storage to the new system.

Solution:
iCAS as a central solution for audit-proof archiving.

Founded in 1805, the Tübingen University Hospital is one of the 33 university hospitals in Germany that contribute to the successful combination of high-performance medicine, research and teaching.

THE SUCCESS AT A GLANCE:

- A hardware-independent system which integrates seamlessly into the existing infrastructure
- Lower adjustment efforts and high usability
- Data integrity and security combined with flexibility and scalability which were unachievable before

THE HOSPITAL

The Tübingen University Hospital is Germany's leading center of university medicine, in which approximately 70,000 inpatients and around 370,000 outpatients are treated each year. With 1,500 beds and over 9,000 employees, the University Hospital functions as a district hospital with a large catchment area and increasing number of international patients. As a supramaximal care hospital, all specialist areas in 17 clinics are covered by the Hospital 24 hours a day, seven days a week and throughout the year, whereby the first-class care is provided to the patients of the University Hospital. The Hospital's sophisticated treatments and outstanding technical facilities steadily increase its amount of data. In archive data, the rapid data growth is mainly caused by scanned patient documents or files produced by digital systems (KIS, PACS or laboratory information system). In addition to the patient examinations that always become more comprehensive, the increasing obligations to document it also contributes to the data growth. The number of objects archived annually is around seventy million and is growing steadily.

"For us, a special challenge in the field of digital archiving and data management is that our doctors must always have access to all patients' data",

explains the Hospital's Head of Infrastructure, Steffen Sick, in an interview. This means, no outages are acceptable for the archive. The audit-proof data storage system was already certified too before iCAS was implemented.

LIMITATION OF THE PREVIOUS SOLUTION

As the Hospital's storage system had reached its capacity limit and its structure did not fit with the agile architecture of the data center any longer, migrating the archive into a better system was necessary. This was challenging and took several months due to the large number of objects needed to be migrated. However, as the migration took place fully transparent in the backend, the users were not aware of it and were not affected by it in their daily work. "The old archive storage was a very static system which completely depended on a particular manufacturer. The economic limit of the system was also reached, as support and maintenance costs increased exponentially over the years. If we had kept the solution, we would not have made any technological progress", explains Steffen Sick.

THE SWITCH TO ICAS

Therefore, better solutions were searched, compared and assessed in the first place. "There were a lot of requirements that we had to fulfill. Both technical factors and appropriate certifications played a major role for us as a university hospital", continues Steffen Sick. As the Head of Infrastructure Department, Steffen Sick attaches great importance to the manufacturer-independence, scalability and flexibility of the solution, which is why iCAS was shortlisted from the start. iCAS is a middleware between different applications and hardware storage, and acts as a central data storage platform.

> *"It does not matter on which servers we install iCAS and what we use for the storage backend. This flexibility of iCAS has a special charm. For the previous provider as well as for most other providers, a dedicated hardware was an essential component of the archive solution",*

says Steffen Sick. Usually, patient data must be stored in a revision-proof manner for 30 years or longer. To fulfill that requirement, the Tübingen University Hospital had developed a procedure in which the data storage was distributed to various geographical locations in order to be prepared for various geo-hazards, such as earthquakes. In addition to standard IT archiving, outsourcing procedures were laid und backup tapes were created and distributed to various locations. With iCAS, this is no longer necessary, which saves time and money. Since the transition, everything that has been re-archived runs directly via d.3 into the iCAS system. The inventory data is currently still being retrieved in the old system if it has not yet been migrated to iCAS. iCAS now acts as an additional data pool in the University Hospital, which is connected to various applications for storing the archive data. The archive system d.3 is connected directly to iCAS via the certified interface.

SECURITY AND FLEXIBILITY

There were some key reasons why the Hospital decided for iCAS. For example, the iCAS Self-Healing function offers a possibility to write the archive data synchronously on two separate storage systems. Afterwards, the replicated data is always checked for its integrity and readability. If corrupt or damaged objects are detected during monitoring of the archive, it can be automatically replaced by a valid copy from the mirrored data pool. This gives the users security of being able to access valid data even during very long storage periods. Only if both data and meta data are available and valid it can be ensured that all information remain correct until the end of the retention period and after various migrations. Another reason was the open interfaces of the iCAS system. Besides patient files, other kind of data should also flow into the system in the future.

The virtualization approach of iTernity has appealed to the Hospital as well. That the archive platform could also be virtualized was ideal for the Hospital which maintains more than 1,200 purely virtualized servers. Thanks to the virtualization capability of the iCAS solution and its easy expandability through non-proprietary storage, now the University Hospital can respond to new requirements at any time. Besides, iCAS fully met the Hospital's expectations on appropriate certifications, even provided more, which showcases that other systems could also work well with iCAS.

THE BENEFITS OF ICAS

> *"iCAS offers significant business benefits for us. For example, we can scale the overall system in all directions. During operation, both storage capacities can be expanded and computing power can be individually adjusted. This is ideal because the capacities are now much better used and our colleagues can work more efficiently",*

explains Steffen Sick. Overall, the iCAS system integrated into the Hospital's standard procedures and existing infrastructure very well. The underlying processes for iCAS operation are standardized. For VMware, Windows Server or Storage, no special knowledge is needed any longer for the basic operation of iCAS.

"In the past, we had to be trained to use specific manufacturer system. So not everyone could simply step in if it was needed. Overall, we have become very flexible and independent from any manufacturer, thanks to iCAS",

says Infrastructure Manager Steffen Sick. Apart from the technical and economic consideration, suitable references also played a decisive role.

"There are many clinics around us that have already deployed iCAS and which we had consulted with. Their positive feedback on iCAS had convinced us. That is why we finally chose iCAS."

NEXT STEPS

Regarding the future of the archive infrastructure, the Tübingen University Hospital can now look forward to it with a peace of mind. Due to the long storage periods and the rapid data growth, certainly there will be data migrations to other systems in the future. Also because of iCAS, the Hospital does not depend any longer on specific manufacturer tools or expensive expertise.

"If we observe the trend in the clinical area, the data volume doubles every two years or so. Additionally, we increasingly must archive other data formats and sources in a legally compliant manner too, such as patient-related e-mails",

continues Sick. Likewise, there will be more image and measurement data coming from the Research Department which are currently not yet archived. The Research Department is a important division at the Hospital. As analysis of these data and its immutability are important in the near future, Steffen Sick can imagine that the subsystems will also be connected to the iCAS system.

DATA ARCHIVING MADE SIMPLE

iCAS is a flexible middleware for retention management & WORM storage. The solution integrates perfectly into heterogeneous infrastructure landscapes. While you take care of your core business, iCAS reliably protects the integrity and availability of your data in the background.

HARDWARE INDEPENDENT

The archive intelligence is tied to the software-layer, not to the hardware

COMPLIANT

iCAS assures regulatory and compliance requirements

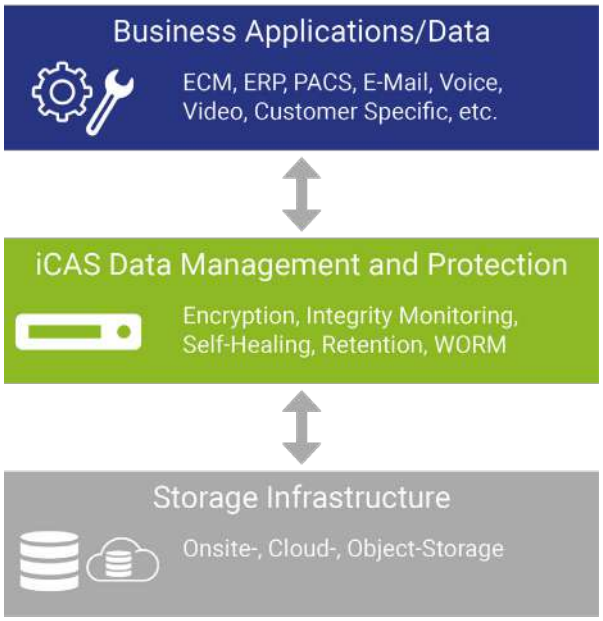
FLEXIBLE

Middleware between your business application and the storage infrastructure

TAMPER-PROOF

iCAS provides WORM storage, encryption and retention management

THE CENTRAL PLATFORM FOR YOUR DATA MANAGEMENT



iCAS protects data integrity and availability, even if the underlying storage technology and hardware changes in the future. As a software-defined solution, iCAS lays the foundation for audit-proof data archiving and protects your investments in hardware, software and services.

iCAS adapts to your IT infrastructure and adds compliance, data integrity protection and WORM storage (Write Once Read Many) to your existing systems.

iTernity

WE TAKE YOUR DATA SECURELY INTO THE FUTURE

We protect your business-critical data. The trust you place in us is our motivation and an investment in the future. The result: more security, less effort, no worries.

Our DNA is archiving, our mission the long-term availability and integrity of all types of corporate data. Our focus is on your challenges, whether data protection, cost pressure, data growth, cyber attacks, lack of time, or complexity –
we take your data securely into the future.

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