



# MEDICAL ARCHIVE GRID

Hyper-scale data center for the Medical  
Center of the University of Munich



A storage architecture with a capacity of five petabytes is to provide the future basis for IT operations at the Medical Center of the University of Munich [LMU]. The architecture, which has been devised by Computacenter, will be used to handle patient data and to evaluate medical data for research purposes.

## OBJECTIVE

The previous storage infrastructure was at the end of its useful life and had to be systematically and methodically modernised. The aim was to create a high-availability database for real-time evaluations, and patient data. In addition, the previous architecture lacked a high-performance monitoring system for the overall environment, which needed to be addressed by the new solution.

## SOLUTION

In phase 2 of the “Medical Archive Grid” project, Computacenter has brought together the most powerful server and storage systems currently available on the market. Over the next few years, the resulting network will come to form the IT basis for handling patient data and for conducting medical research at the Medical Center.

## OUTCOME

The solution from Computacenter means that the Medical Center of the University of Munich now possesses one of the most powerful storage environments within the medical field. At the same time as creating the environment, Computacenter also automated data center administration and introduced a high-performance monitoring and reporting system.

### SERVICES

- Supply Chain Services
- Design & Build Services
- Data center

### USER EXPERIENCE

- Improved communication and collaboration
- Enhanced agility and mobility
- Improved access to information

### BUSINESS IMPACT

- Supports digitalisation
- Accelerates innovation
- Reduces costs





In Computacenter, we found a competent partner that not only possessed the necessary technical expertise but also responded to us with openness and creativity when it came to implementing changes or new requirements. This meant that alternative solutions could be incorporated in next to no time and, as a result, the entire project was completed within a year as planned.”

**Robert Koppelstetter, Central Systems, Medical Center of the University of Munich**



## OBJECTIVE

**Medical storage systems completely rebuilt from scratch.**

“Firstly, the Medical Center [like any hospital] operates 24/7 and this had to continue unhindered. In the light of the increasing number of IT-supported processes – such as those required for ongoing patient care – this meant that the IT infrastructure had to be replaced in as transparent a manner as possible,” explains Robert Koppelstetter, Project Manager at the LMU Medical Center. “Secondly, it was necessary to take a wide-angle view of everything in specific phases of the project, as some systems have an impact beyond the confines of the Medical Center itself.”

Consequently, numerous sub-areas had to be dealt with as part of this extremely wide-ranging project. For starters, the existing server and storage systems had come to the end of their lifecycles. Next, there was the issue of taking a set of decentralised IT systems and bringing them all together. In addition, there was also the issue of a lack of continuous monitoring required for servers and storage systems, as monitoring had only been developed to a rudimentary level. And finally, there were no automated administration routines, and the backups took a long time.

## SOLUTION

**Overall concept based on deep expertise.**

Computacenter was already looking after the Medical Center’s storage infrastructure in the years leading up to the project’s launch. Phase 2 of the “Medical Archive Grid” project is geared towards finding efficient ways of managing and using the growing volumes of data generated within the medical field. Accordingly, after drawing up rough and detailed concepts for all relevant sub-areas – such as SAN, LAN, data store and server – Computacenter then built on these by implementing the migration solution.

“Given that the number of clients totalled 10,000 and there were 14,000 specialist users, this was one of the biggest projects of its kind,” says Andreas Jöbstl, Key Account Manager at Computacenter. The IT service provider was responsible for project management across all modules and handled the organisation of all implementation and migration services plus the delivery of all hardware and software components.

The Medical Center’s IT managers were trained by Computacenter during a series of workshops. The project saw the implementation of state-of-the-art, future-proof technology, such as a 32-Gigabit SAN network and a 24-node archive cluster along with the corresponding storage systems and high-performance servers. As a result, the university’s 48 specialist clinics now have a storage capacity of 5 petabytes, with 1,000 virtual and 200 physical servers directly available.

## OUTCOME

### A storage network fit for the future of medicine.

The server, storage and SAN infrastructure that Computacenter has developed and set up for the Medical Center of the University of Munich is a future-proof solution based on state-of-the-art technology. This means that as the volume of patient data continues to grow, the Medical Center will have a secure and efficient means of handling and using the data both now and in the future, whether it is collected on a day-to-day basis, or for research purposes.

Furthermore, the new infrastructure allows quicker and easier administration thanks to the numerous automation tools that have been freshly implemented. Now that monitoring software has been installed, faster response times are achievable within the context of Problem and Change Management.

“We are now deploying our IT resources more efficiently than before. By undertaking this digital transformation towards a hyper-scale data center, we have created the conditions that will allow us to accommodate future trends in medicine,” explains Robert Koppelstetter. For instance, the new environment will provide the necessary storage capacities for the kinds of data volumes associated with genome research and medical imaging techniques for many years to come.

“In order to support digital assistants equipped with artificial intelligence and performing real-time analyses, architectures like this, with powerful evaluation features, are absolutely indispensable,” concludes Mr Koppelstetter.

---

### ABOUT MEDICAL CENTER (LMU)

The Medical Center of the University of Munich (LMU) treats around 500,000 outpatients, inpatients and semi-residential patients each year at its Großhadern and City Centre Campuses. Just over 2,000 beds are available to its 29 specialist clinics, 12 institutes and 7 departments, as well as its 49 interdisciplinary centres. Of a total of 9,700 employees, around 1,700 are doctors and 3,200 are nursing staff. The Medical Center of the University of Munich has been a public-law institution since 2006.

---

### MORE INFORMATION

To find out more, please send a mail to [communications.germany@computacenter.com](mailto:communications.germany@computacenter.com)

---