



BRAUNSCHWEIG'S MUNICIPAL HOSPITAL IS DRIVING INNOVATION WITH ITS MODERNIZED IT INFRASTRUCTURE



CUSTOMER

STÄDTISCHES KLINIKUM
BRAUNSCHWEIG GMBH

WEBSITE

WWW.KLINIKUM-BRAUNSCHWEIG.DE

INDUSTRY

PUBLIC SECTOR

CITY

BRAUNSCHWEIG, GERMANY

CHALLENGES

- Hospitals in Germany are facing the challenge of massive and increasing cost pressure.
- The hospital's 35-strong IT team was suffering under high-volume IT operations, slow data flows and applications and a chronic lack of time.
- A foundation had to be laid for mobile work and for the digital future of the hospital – in areas such as digital patient dossiers, for example.

SOLUTION

The solution includes software-defined storage with VMware vSAN, plus a hyperconverged infrastructure as the first step toward realizing the overall SDDC vision.

OUTCOME

- The modular design of the new infrastructure facilitates plans for the multiple relocation of the data center.
- Medical findings are available faster and mobile apps are available to hospital staff.
- The new infrastructure has injected "tremendous momentum" into the development of apps, virtual reality applications and digital care models.

To increase the quality of care for patients and avoid long distances between the current number of buildings, Braunschweig's Municipal Hospital decided to reduce the number of locations to one central and modern hospital campus. This has implications in the way the IT landscape is organized. Modular, flexible information technology is vital, and applications are expected to deliver faster results to drive digital transformation and to prevent cost pressure in the healthcare sector. Virtualizing storage and separating the hardware and software enabled the IT department to boost infrastructure performance: Patients benefit from faster diagnoses, staff can work on the move therefore saving time and costs, and the IT team can advance innovation by developing modern medical apps. While laying a firm foundation for healthcare in the region, this IT backbone also showcases Braunschweig's pre-eminent role in pioneering the connected hospital.

Braunschweig Municipal Hospital – its full German name is Städtisches Klinikum Braunschweig GmbH – is one of the biggest employers in the region. It has around 1,500 beds and employs nearly 4,300 people in the hospital (almost 5,000 people including subsidiaries). This university-standard maximum care hospital caters to a population of roughly 1.2 million. Its 21 clinics, ten independent clinical departments and seven institutes cover practically the entire spectrum of medical care. In-patient treatment is provided to over 65,000 people and out-patient treatment to about 200,000 people a year. The hospital generates revenue of approximately EUR 350 million per annum. Its vision is to shape the hospital of the future by combining digitalization with top-class medical care and a deep commitment to corporate social responsibility.

The challenge

Braunschweig Municipal Hospital sees itself as an innovative healthcare provider and a pioneer of the "connected hospital" concept. Up to now, however, its IT department was unable to fully embody the role of digital innovator. The hospital's 35-strong IT team was suffering from high-volume IT operations, slow data flows and applications and a chronic lack of time. "Hospitals in Germany are suffering from increasing cost and time pressure. IT needs to contribute to improve the daily work of our nursing professionals and doctors in order to leverage the quality of healthcare services as well as patient care," said Norman Lüttgerding, CIO at the Braunschweig hospital. Another key objective was to make sensitive patient information available to the right person at the right time and in the right place, thereby empowering a more mobile approach to work in the hospital environment.

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CIO
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VMWARE PRODUCTS DEPLOYED

- VMware vSAN
- VMware vCenter
- VMware Horizon
- VMware vSphere

VIRTUALIZED APPLICATIONS

- SAP

PARTNERS



Meanwhile, the management presented the IT department with a further request: In the course of this, the largest construction project in the hospital's history, whose aim was to realize a twin-site model with funding of EUR 221 million – the first step toward the “central project” that would ultimately leave just a single hospital campus – IT was also tasked with consolidating its three existing locations into two. And just to make the job a little trickier, the existing main data center was currently in that part of the hospital that was to close down.

The solution

Braunschweig Municipal Hospital has been relying on virtualization for quite some time, working with VMware since 2008. To consolidate its facilities, the IT department needed a flexible and modular solution. Already a long-standing customer of VMware, the hospital turned to VMware plus two partners, SVA System Vertrieb Alexander GmbH and Fujitsu to standardize the infrastructure and reduce complexity. The solution includes software-defined storage with VMware vSAN, plus a hyperconverged infrastructure as the first step toward realizing the overall SDDC vision, supporting end-user computing models. It links systems together, protects data, boosts agility and also cuts costs. Mobile work based on VMware Horizon is now a reality for staff at all of the hospital's sites. They now have access to any enterprise application from any device.

“The goal of this project was first and foremost to improve the performance of and failsafe features for mobile applications like SAP with the clinical information system, digital voice recognition and special medical devices,” says Jörn Bergmann from SVA GmbH's sales team. SVA has worked with Braunschweig Municipal Hospital for 14 years, supplying its entire infrastructure, hardware and software, and it ultimately convinced the hospital to choose VMware vSAN.

Braunschweig Municipal Hospital has been a long-term Fujitsu customer with good experience in their products, product quality and reliability. The hospital was already working with Fujitsu servers and opted to base the new data storage system on Fujitsu's reference architecture. “It was really important to us to virtualize the separate storage, compute and network units and lay the basis for harmonized administration with the VMware vCenter management platform,” says Zafer Demirel, Account Manager Healthcare at Fujitsu.

The result

In modern hospitals where communication is connected, IT is the key to reliable healthcare service delivery. If the IT doesn't work properly, critical hospital infrastructure is paralyzed. The IT must keep going even in the event of a power outage which can only be guaranteed by a well-thought-out IT service concept and failure data centers. “A data center failure at a hospital can put patients' lives at risk. The new infrastructure gives us the best available defense against that,” affirms Florian Immenroth Head of IT infrastructure, Klinikum Braunschweig. “Thanks to the modular design of the VMware infrastructure, the multiple relocation of the data center that lies ahead is no longer a Herculean task,” Lüttgerding adds. “On our side, there is no threat to the operation of essential medical equipment.”

The response to the second challenge facing the IT department is no less remarkable: “Our doctors and nursing staff are impressed by the performance of the new solution,” says an evidently proud Norman Lüttgerding. “For the people who work at the hospital, this kind of project becomes measurable when

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you need to make MRT or CT images available, for instance. What used to take several seconds is now done and dusted in an instant. Our fast SAP ERP system, combined with a clinical information system, enables doctors and nurses to access patients' data on a tablet right at the bedside, thanks to a mobile ward trolley.” This reduces unneeded stress in the clinicians work in the process. Patients and clinicians benefit from quicker diagnoses, processes and enhanced treatment, ultimately saving lives and resulting in greater patient experience.

The internal IT department responsible for ongoing development of the medical apps is likewise reaping rewards: “The new infrastructure injects tremendous momentum into the development of apps, virtual reality applications and digital care models,” explains Norman Lüttgerding. Harmonized management of the IT infrastructure now also saves working hours resulting in more IT projects being delivered in the same timeframe.

Looking ahead

Virtualization leaves Braunschweig Municipal Hospital excellently placed for the future: “Our vision,” Lüttgerding says, “is to be a modern, connected hospital. The new infrastructure has taken us a huge stride closer to this goal. Thanks to VMware, we no longer just operate a healthcare system: We are also a driver of innovation, employee satisfaction and patient welfare.” An important point: Since the hospital plans to develop innovative digital solutions, like telemedicine, virtual reality or service robotics, the IT infrastructure must be scalable to accommodate future demands. In line with the German government's digital roadmap for healthcare, digital patient dossiers will soon be implemented. And thanks to the new VMware solution, Braunschweig Municipal Hospital is now well prepared for this digital transformation.

