A MODERN UPGRADE FOR PATIENT CARE

CHU Dijon Bourgogne improves access to medical images and information

Center Hospital University (CHU) Dijon Bourgogne modernized its patient data and medical imaging platform to provide faster access for medical providers and researchers. The hospital is now poised to use AI to analyze medical images, thereby optimizing the patient journey and assisting with genomic research for predictive purposes.

Modernizing to enable better patient care
The vision of CHU Dijon Bourgogne is to continue to offer quality care to patients. This means ongoing technology innovations to reduce the length of hospital stays, speed recovery, and avoid unnecessary visits to the doctor. “It is a vision that is shared by hospitals all over the world because we have less and less hospital staff and more and more people who want to come for consultation,” explains Benoit Turc, IT Technical Department Manager, CHU Dijon Bourgogne.

With more than 1,800 beds and 7,500 employees, CHU Dijon Bourgogne is one of the top 20 hospitals in France and the largest employer in the Côte-d’Or region. It meets all the health needs of the regional population and beyond. The hospital has three primary functions; it serves as a public service for emergency reception, diagnosis, care, and prevention; a research institution; and a university that trains future general practitioners and specialists.

CHU Dijon Bourgogne’s history spans more than eight centuries, thus the hospital is no stranger to adaptation and modernization to enable better patient care. When a growing number of files began to cause system issues, CHU Dijon Bourgogne chose to implement a Scality RING storage platform for HPE Apollo 4200 server to be in a position to use AI to analyze medical images, optimize the patient journey, and assist with genomic research for predictive purposes. “We are developing detection algorithms and perfecting them by feeding them with medical images,” explains Turc. “We are still in the experimental stage, but we have a lot of images to exploit.”

INDUSTRY: HEALTHCARE
REGION: FRANCE
VISION
Support better patient care with improved provider access to ever-increasing volumes of data

STRATEGY
Upgrade the hospital data and image storage solution to one that is scalable and secure while complying with retention regulations

OUTCOMES
- Delivers data to doctors 99.96% faster
- Stores years of patient history, supporting continuity of care
- Achieves SLAs by updating easily without downtime
Patients and providers enjoying fast access

Turc reports, “Doctors are enjoying the first benefits of the new solution. Medical images and examination data from a patient’s file are available much more quickly than with our old system. The loading time is almost transparent for them.” When healthcare providers don’t have to spend time looking for information, they can spend more time with patients.

Medical specialists outside the hospital can access data and images through a portal with authentication mechanisms, which supports continuity of care. “Additionally, patients have access to their images and data, so they are using our Scality system without knowing it,” Turc says. In the future, the portal will also offer scheduling capabilities, further enabling patient self-service.

Centuries worth of medical images collected and stored

Before upgrading with Hewlett Packard Enterprise, the number of medical images had become problematic for CHU Dijon Bourgogne. The hospital’s existing storage solution was unstable, didn’t maintain SLAs, and was difficult to update. “With patient healthcare, data is constantly growing—60 Tb in 2021—and we could not keep up with the data storage requirements,” says Turc.

Even if the hospital wasn’t seeing more patients and doing more examinations, the volume of storage required had become a critical issue. “There were two main challenges,” explains Turc. “First, the storage volume itself: modern medical imaging devices generate more precise—and therefore, bigger—images, which require more storage space. The second challenge is the time to access information and data. Medical professionals and researchers need real-time access to data.”

Data retention regulations also require CHU Dijon Bourgogne’s medical imaging archive (GE PACS) to be both highly scalable and secure. “The retention period for patient data is 20 years after the patient’s last visit to a doctor. If the patient comes every year, we must keep everything until 20 years after their death,” Turc continues. “Medical images are required to be kept even longer than the patient’s data, so we’re looking at centuries of medical images collected and stored.”

Extending service to support research

The hospital also needed a solution that could be extended without service interruption to users. “If the CHU Dijon Bourgogne IT department had not been able to meet the expectations of its users, I think researchers would have turned to shadow IT, and we would have lost data or even put some patients’ data at risk and ended up with a lack of control over costs,” Turc explains.

CHU Dijon Bourgogne takes advantage of HPE Pointnext Complete Care, which is delivered by an assigned team of HPE Pointnext Services experts. With HPE Pointnext Complete Care, the hospital gets regular reviews of the working state of its infrastructure. “We especially appreciate the fact that HPE knows our infrastructure very well and is therefore capable of recommending critical patches to be applied proactively,” Turc continues. “It’s this level of service that I like and find reassuring.”

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– BENOIT TURC, IT TECHNICAL DEPARTMENT MANAGER, CHU DIJON BOURGOGNE
Less disk capacity used, less risk

The new platform is spread over three data centers, which serves CHU Dijon Bourgogne’s security and service-level goals. “We can lose any of the three data centers without losing the production. This is important because doctors and researchers need to have immediate access to data around the clock, and now they do,” notes Turc. Previously, images would have to be searched for, requested, and stored elsewhere the day before to be quickly accessible. This isn’t practical for providers who are caring for patients or researchers who are brainstorming and need data quickly. “Waiting a few seconds is fine, but overnight is not,” Turc says.

The fact that this solution could work in three data centers with all the necessary security levels, and that the hospital could optimize disk usage, was an important motivation for CHU Dijon Bourgogne’s choice. Turc continues, “We insisted that it be spread over the three data centers because we wanted to check that it was running correctly and therefore optimize the use of our disks and fill two-thirds of the servers, with the others being used for redundancy and security purposes.”

The net result is the data is well protected with replication and erasure coding, but the system places far less data on disks, so the hospital needs less capacity to store the same amount of data.

Moving to a modern storage platform

CHU Dijon Bourgogne opted for a Scality RING software-defined object storage platform on HPE Apollo 4200 servers after Getronics, a trusted partner, introduced the solution to the hospital. Two of the deciding factors for choosing this solution were Scality’s reputation among hospitals and GE Healthcare’s endorsement of the solution as a good fit with the PACS. “If GE Healthcare had told us it wouldn’t work with Scality, we wouldn’t have gone there,” states Turc. “Given the sensitive information that we store on it, it was essential and critical we had the approval of GE Healthcare for this solution. It couldn’t be done without their support.”

The scalable solution, which has already been upgraded twice since implementation, was initially based on six HPE Apollo servers. Today, the hospital operates a Scality RING with approximately 1.2 PB and eight HPE Apollo servers with 2.5 PB inside. “We use the Scality RING with the PACS for medical imaging and with our CaloPix editor for genomic storage. We also store dermatology and electrocardiogram images,” Turc shares.

Cooperation among partners

Getronics has been a trusted reseller partner of the hospital for more than 10 years. “Getronics works well with HPE,” Turc says, “And although they spoke with us and then supplied the recommended solution, the implementation was done by Scality. The close cooperation between Scality and HPE is highly appreciated. When I have a question about something, I can contact either company.”

“Furthermore,” Turc continues, “the HPE and Scality solution is just what we were looking for. It integrates well with our information system and the fact that the same organization at HPE is in charge of everything related to maintenance, support, and services contributed to our choice.”

The combined storage solution delivers the performance, reliability, and massive scalability that CHU Dijon Bourgogne needs. Turc concludes, “It’s very easy to maintain and reliable. We can expand without limits or disruption. We don’t ask ourselves anymore, ‘Is it going to be complex and cumbersome, or how long will it take?’ We just do it.”

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SOLUTION

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• HPE Apollo 4200 servers

SOFTWARE
• Scality RING

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KEY PARTNERS
• Getronics
• Scality