

# CASE STUDY

## ST. LUKE'S INTERNATIONAL HOSPITAL

»WITH SUPPORT FROM FUJITSU, WE COULD PROPERLY ORGANIZE OUR SYSTEM INFRASTRUCTURE. FUJITSU ALSO RESPONDED TO PROBLEMS SO QUICKLY THAT WE DIDN'T SEE A SINGLE PROBLEM LEFT UNRESOLVED BY THE NEXT MEETING«

**Hiroyuki Aoki, Manager, System Operation Division, Medical Information Center, St. Luke's International Hospital**



### THE CUSTOMER

Founded in 1902 by Rudolf Bolling Teusler, a missionary doctor of the American Episcopal Church, St. Luke's International Hospital has been providing patient-centered medical care under Christian philosophy ever since. During its over 100 year history, the fields of medicine and surrounding disciplines have changed dramatically. Now with the rapidly developing Information society, new hurdles are being presented for system infrastructure, including higher levels of reliability and stability. In this situation, the hospital's main issue became how to incorporate state-of-the-art technology while enabling highly flexible use of information. To resolve this it decided to renovate its information utilization infrastructure including both hardware and software.

### THE CHALLENGE

Security measures for access prevention, loss and misuse of medical information have become urgent issues. St. Luke's International Hospital was facing such issues, and with its 10-year old hardware and old software, failures had become prominent. Staff were also frustrated with using such old infrastructure and had operational and security concerns. Then with dwindling support, it became obvious that the hospital needed to start an infrastructure renovation as early as possible.

In the course of the system infrastructure renovation, a problem arose in the information utilization environment. After a self-developed intranet site started operation in 1998, an application to enable file sharing across the intranet environment was introduced in 2006. However, the application installed as an attempt to improve its functionality, was unable to centralize information scattered across the entire hospital. "The biggest issue was that we couldn't find needed information. That was worse than just the paths to the needed information being complicated. This was because we might have made wrong decisions based on wrong information," says Mr. Gen Shimada, Vice Center Manager of the Medical Information Center. For the hospital, realizing the limitations of the existing infrastructure hardware and software, and establishing a secure and easy-to-use information utilization infrastructure that resolved such issues, was the first priority.

### THE CUSTOMER

Country: Japan  
Industry: Healthcare  
Founded: 1902  
Number of beds: 520  
Website: [www.luke.or.jp](http://www.luke.or.jp)



### THE CHALLENGE

The customer has problems in the past trying to renovate the system. The priority for the new system is to eliminate reliability and stability concerns due to aging hardware and software. Another requirement was to improve agility for disaster recovery with greater system availability.

### THE SOLUTION

To match the customer's requirements, Fujitsu Software Technologies Limited offered high-performance and high-reliability 2 way rack servers Fujitsu PRIMERGY RX200 and Fujitsu PRIMERGY RX300, and Fujitsu ETERNUS2000 disk storage system. Fujitsu's hardware was combined with Microsoft Office SharePoint Server 2007 to provide optimum performance for the customer.

## THE BENEFIT

- By information system infrastructure renovation using state-of-the-art technologies, a robust and scalable information utilization environment was achieved.
- Redundantly configured servers and high-performance and high-reliability storage systems, enabled construction of a system infrastructure which can be stopped at any time with a lower operations management workload.
- The combination of Windows Server 2003 MSCS and NLB (Network Load Balancing) function allowed IT resources, that couldn't have been provided previously, to be utilized

## THE SOLUTION

In November 2007, as system replacement was about to progress, the hospital decided on use of Microsoft Office SharePoint Server 2007 which Microsoft offered with very good timing. In line with hardware replacement and software upgrades for servers and email environments, the hospital also decided to construct a new in-hospital intranet portal. And Fujitsu Software Technologies Limited was chosen to support this new project for configuration and installation. Focusing on reliability of the infrastructure to support the in-hospital portal operation in particular, Fujitsu Software Technologies Limited offered high-performance and high-reliability 2 way rack servers Fujitsu PRIMERGY RX200 and Fujitsu PRIMERGY RX300, and a compact and cost efficient Fujitsu ETERNUS2000 disk storage system. Further, by placing redundancy as the key, the system was configured to enable disaster recovery and disk expansion.

Mr. Hiroyuki Aoki, system operation division manager at the Medical Information Center explains, "We ordered the system to be able to utilize the hardware investment above everything else. Even if the system could be configured redundantly, it meant waste if we couldn't use one unit." The new project was quickly approved and launched in January 2008.

Starting with the domain controllers, all Exchange Server 2007, Office SharePoint Server 2007 installed Fujitsu PRIMERGY were concentrated into 2 units. These were connected to a RAID configured Fujitsu ETERNUS2000 disk storage system via FC switches. While maintaining hardware reliability and stability, availability was further improved using Windows Server 2003 cluster service (MSCS) and Network Load Balancing function (NLB). In addition, ARCserve was used as backup software to automate daily backup. Fujitsu Software Technologies Limited, supported software installation and is proud to say, "In terms of operation, we configured to reduce administrator workloads to the utmost. This was enabled by our long experience and accumulated know-how."

## THE BENEFIT

In reality, the migration process from the existing environment didn't always go smoothly. "But with support from Fujitsu Software Technologies Limited, we could properly organize our system infrastructure which had remained half-done. Fujitsu Software Technologies Limited also responded to problems so quickly that we didn't see a single problem left unresolved by the next meeting," says Mr. Aoki.

## PRODUCTS AND SERVICES

- Fujitsu PRIMERGY RX200
- Fujitsu PRIMERGY RX300
- Fujitsu ETERNUS2000 disk storage system
- Microsoft Exchange Server 2007
- Microsoft Office SharePoint Server 2007
- Microsoft Windows Server 2003 cluster service (MSCS) and Network Load Balancing function (NLB)
- ARCserve backup software

The project proceeded without delay and there were two reasons for this. The first was that no paper documentation was used to facilitate communication. The second was the know-how in project management provided by Fujitsu Software Technologies Limited, which supported installation. The project was led by staffers holding international standard Project Management Professional certification and managed accurately using Microsoft Office Project for the entire process. Therefore as all staff members were able to share the schedule and critical paths, the project was able to be progressed while avoiding critical problems.

## CONCLUSION

Following the smooth system construction, the hospital commenced content development for the in-hospital portal in June 2008. The development was done in the hospital. Finally in September 2008, the construction of the new, large-scale information utilization environment with 2,000 users and 1,600 client units was completed.

"Now we can do normal things normally," says Mr. Shimada. Aside from information sharing which they had concentrated on becoming available, all information previously scattered across the entire hospital was centralized. As a result speed and accuracy when searching information improved dynamically. But users were not the only ones who benefited from the enhanced reliability of the new system infrastructure. Administrator workloads also reduced significantly and the combination of these achievements now means almost all of the issues initially identified can be said to be resolved. "We should not just emphasis hardware benefits," says Mr. Aoki.

And to follow up on Mr. Aoki's remark, Mr. Junichi Haruta, of the System Operation Division at the Medical Information Center says, "It is not surprising that no failures have occurred. What we appreciate most is that now we can stop the system at any time. Then when doing reboot, backup operations or whatever, we no longer need to worry about such operations affecting system operation."

Although they are extending into real-time areas of in-hospital portal utilization from now on, having achieved peace of mind in terms of operations is an advantage. The robust and scalable infrastructure, brought to the hospital through renovation of the information utilization environment, may have opened new possibilities for the medical field.

## CONTACT

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