

Case study Doshisha University (Kyoto, Japan)

»Fujitsu's mission-critical server, PRIMEQUEST, guided the direction of our new system. Having an open system architecture was essential for us, to allow for easier operation and administration.«

Kiyoshi Sakata, Manager, Information Planning Division, Doshisha University



The customer

Country: Japan
Industry: Education
Founded: 1875
Students: 28,428 (as of April 2011)
Website: <http://www.doshisha.ac.jp>



The challenge

- Lower operational costs through consolidation of systems
- Utilize system resources more effectively
- Streamline the operational and administrative workloads and reduce costs

The solution

- Lowered initial purchase costs by combining the partitioning and virtualization software, which enabled flexible consolidation on a single PRIMEQUEST 1800E2 server
- Flexible system resource allocation to match seasonal system peaks (for example, students' course registration in April)
- Unified systems management greatly reduces the workload for operation and administration tasks, such as backup and monitoring

The customer

Doshisha University was founded in 1875 by Joseph Hardy Neesima – a pioneer in bringing Western learning concepts to Japan. As a young man, he left his homeland while it was still officially isolated from the rest of the world and spent a decade in the United States. Neesima was so impressed with the impact of science and Christianity on American society that he returned to Japan in 1874, which had just started on the path to modernization, and established a school in Kyoto. This was the forerunner of Doshisha University, which has continued to uphold the three fundamental ideals of Christian principles, liberalism, and internationalism. Doshisha University is now a thriving place of learning with a diverse range of faculties and an ongoing commitment to global interaction and communication.

The challenge

In 2009, a radical design for a new information system was put in place. This new open-architecture system would support the educational innovation of Doshisha University. The following six disparate systems were to be integrated as part of this design by 2011:

1. Basic integrated database and data analysis system
2. Researcher's database system
3. Scholarship and loan management system
4. Intellectual property management system
5. Certificate issuance system
6. DUET study support (Doshisha University Electronic Tutorial)

The university's existing system was so complex that it increased the effort required, the operational cost and the administration tasks and it also took up too much server room space. Administration tasks, such as backup and system monitoring, were difficult because of the mixture of servers from numerous vendors. Business continuity is also important, since systems like DUET (study support system) are used by students every day.

The solution

Fujitsu proposed a combination of a PRIMEQUEST server and VMware vSphere virtualization software. PRIMEQUEST is as robust as a mainframe system and is also highly scalable. The combination of PRIMEQUEST and VMware vSphere enables Doshisha University to effectively utilize the system resources and be prepared for seamless expansion of the system with minimal cost in the future.

The benefit

- Consolidation of multiple machines into one PRIMEQUEST server
- Smooth migration thanks to Fujitsu's virtualization experience
- Stable operation by effectively utilizing system resources
- Easy and quick expansion of future system scope
- Simple and unified operation and administration
- Consistent security policy with visualization of administration tasks

Products and services

- PRIMEQUEST 1800E2 mission-critical x86 server
- PRIMERGY RX300 S6 x86 server
- ETERNUS DX80 S2 storage system
- VMware vSphere virtualization software [for PRIMEQUEST]
- Systemwalker integrated operations and systems management middleware [for PRIMERGY]

The benefit

The new system consists of a single PRIMEQUEST server divided into two partitions which are physically isolated. Six different applications run on virtual machines.

When determining a platform for consolidating applications, a server with high reliability is an absolute must. PRIMEQUEST is 5 to 10 times more reliable than standard x86 servers, making it an ideal platform for server consolidation projects.

Doshisha University was struggling to migrate applications from various vendors onto several servers. Fujitsu called on its considerable experience with virtualization to efficiently manage the migration process.

Consolidating the servers also resulted in optimization of system resources. The DUET system reaches its peak load in April, when the new school year starts. When designing the new system, the testing was done to ensure stable operation even during this peak period. The system was designed to allocate system resources flexibly to the DUET system to meet these peak requirements.

The system also allows for rapid but low-cost enhancement in the future, because it is possible to develop simply by adding virtual machines without preparing new hardware. The university adopted the Systemwalker systems management middleware suite to administer the system efficiently. This allows for easy operation and monitoring as well as automatic batch processing, and also strengthened security thanks to the uniform management of log data. As the administration tasks became visible, it is now possible to implement a standardized security policy.

Conclusion

Doshisha University successfully consolidated multiple systems with a combination of Fujitsu products, including a PRIMEQUEST mission-critical x86 server. As an institution that values liberalism, Doshisha University made an appropriate decision to choose a flexible open systems architecture. The university is now well placed to deal with future changes and challenges, as the PRIMEQUEST platform enables rapid and easy expansion of capability by simply adding virtual machines.

About Fujitsu

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