Case study
KOKUYO Co.,Ltd.

» Database processing improved by 3x. With the stable service, we were able to perform our duties without delay despite the significant increase in the number of orders during the peak-demand season.«

Mr. Jun Benki, Group Leader, Information System Division, Infrastructure Planning Group, Kokuyo Co., Ltd.

The customer

Country: Japan
Industry: stationery, furniture, and online-shopping/retail
Established: October 1905
Website: http://www.kokuyo.com/en/

The challenge

The processing capacity of the order management system had struggled to meet the demands of the annual peak season due to strong sales growth. Higher throughput capacity was needed to support the growing business. Kokuyo decided to replace the backend database servers in their order management system.

The solution

Because of its flexible capacity, high performance, and reliability, Kokuyo chose Fujitsu M10-4 SPARC servers. With Fujitsu M10's innovative supercomputer-derived features such as parallel data processing and high-speed memory access, the database performance was improved by more than 3x. To support Kokuyo's business goals, significant reductions in total cost of ownership (TCO) were achieved through server consolidation as well as ICT infrastructure optimization.

The customer

Kokuyo manufactures and sells stationery/office supplies, including the long-selling "Campus Note" products, office furniture, in mail order and retail business via "Kaunet" website. The original Japanese notation of the company name, Kokuyo, expressed the commitment of the founder to "be an honor to the home country". In addition to building up the firm's success in Japan, Kokuyo strives to expand across Asia. While making contributions to local economies and the environment with a local production for local consumption model that establishes a value chain in line with Japan's economic growth, Kokuyo aims to achieve 30% of their total sales outside Japan by 2020.
Kokuyo's order management system is used by approximately 5,000 users across their group companies, sub-contract factories, and distributors. The system also works in conjunction with their online consumer retail system. Kokuyo launched the replacement of their database infrastructure for this system in May 2013.

The challenge

Mr. Benki talks about the challenges for their order management system. "The processing capacity of the system had been stressed during the peak-demand season when order volume increased. Reinforcement of the system infrastructure was therefore a long-standing need. Additionally, we sought a way to achieve the reinforcement without increasing operational costs." Insufficient processing capacity was also causing delays at the start of the business day due to overnight batch processing taking too long. In addition, deteriorating stability of database servers under heavy workload was also of concern. Mr. Naomi Masuda, Infrastructure Planning Group, Information System Division, recalls, "During the peak demand season, the CPU utilization for order processing sometimes reached 100 percent on some servers. Although a surplus of CPU capacity remained on other servers, there was a concern that the performance would become unacceptable in the next peak-demand season."
Kokuyo also had the aim of renewing the system to make it more scalable. Mr. Tetsuya Yoshida, Information System Division, Infrastructure Planning Group, Kokuyo Co., Ltd. says, "We looked into the future, including consolidation of other database servers, and we wanted to make the system capable of further increases in the processing capacity flexible and smooth."

The solution

In order to resolve these business and technical challenges, Kokuyo decided to replace its database servers, and the Fujitsu M10-4 SPARC server was selected. Fujitsu M10 offers supercomputer-derived functions such as parallel data processing and high-speed memory access which can significantly improve order processing performance. "The primary reason for selecting this server was its ability to meet our target performance goals. Additionally, being able to reduce operational costs via server consolidation also supported our decision," says Mr. Benki.
In addition, Kokuyo was impressed with the Fujitsu M10-4's cost-effective and high capacity memory and its CPU Activation feature can be used for future expansion.

In addition to performance, its high reliability features were also key factors in selecting Fujitsu M10. Mr. Yoshida says, "Fujitsu has accumulated expertise in high reliability technologies gained from its experience in mainframe technologies. We have therefore adopted Fujitsu M10 servers for our mission-critical systems, and the reliability was proven with continued stable operation. We have selected Fujitsu servers with confidence."

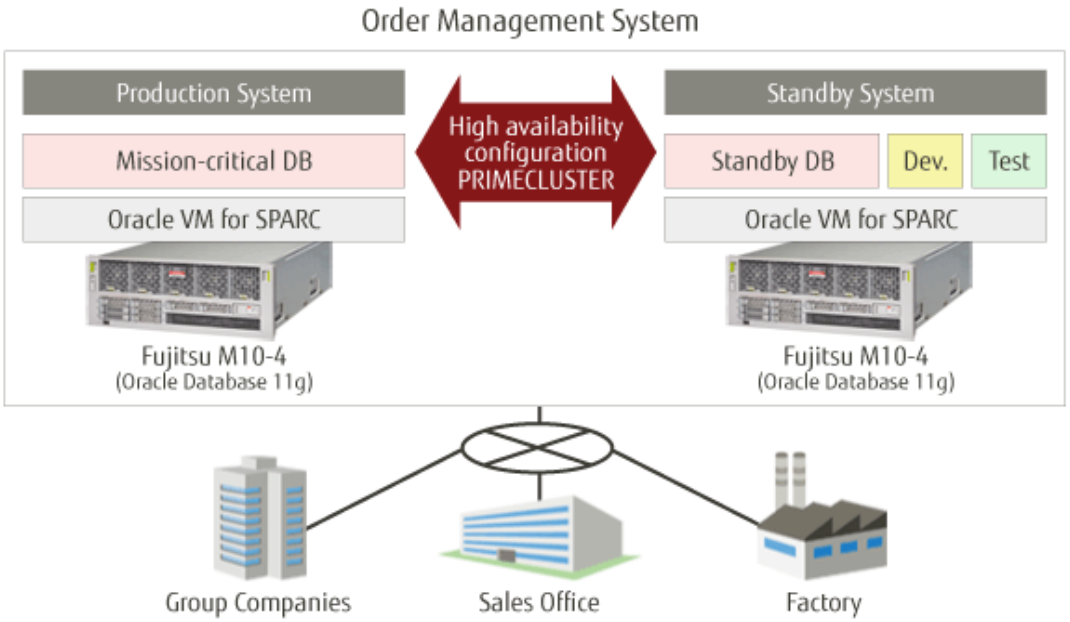
The benefit

After the decision was made to deploy Fujitsu M10-4 servers, the system replacement began in September 2013. The actual deployment work was completed quickly, achieving the production system cutover only four months later. A delay in the system cutover was never acceptable. "Fujitsu system engineers have extensive experience in system replacement, in this replacement project, they repeatedly conducted testing and utilized their wide know-how to ensure completion by the deadline. Since the system replacement involved migration between Oracle Solaris servers, it was completed in a short period of time and at a low cost. The support from Fujitsu enabled us to stay on schedule and perform the migration efficiently. They are certainly a reliable infrastructure partner for us," says Mr. Masuda.

In order to achieve their processing performance goals, Kokuyo not only replaced servers but also worked on performance improvement of the entire system, including application optimization and improvements of storage disk I/O performance.
Kokuyo previously used a total of five SPARC Enterprise M series database servers, including development servers, but successful migration resulted in the new system using only two Fujitsu M10-4 servers.
"We additionally used two development servers in the previous system, but now we have reserve capacity available to enable a standby server to be used as a development server. As a result, we were able to reduce the number of servers from five to two and this also led to a reduction in operational costs," says Mr. Yoshida.

Conclusion

Kokuyo achieved significant database performance improvements with the refresh to Fujitsu M10-4 servers. "Database processing improved by 3x. With the stable service, we were able to perform our duties without delay despite the significant increase in the number of orders during the peak-demand season," says Mr. Benki.
Fujitsu M10 solved the overnight batch processing problem by reducing the time required by approximately 90 minutes. High-performance processors and excellent stability of the Oracle Solaris operating environment improved the reliability and availability of the system to a higher level. Mr. Masuda says, "We actually have a sufficient processing capacity and the servers handled the heavy load gracefully even during the peak-demand season. In addition, the large memory capacity increased the hit ratio of the databases and improved the overall performance. We have achieved high performance, reliability, and stability required for our mission-critical systems."
Mr. Yoshida talks about the future plans. "We are eager to perform further server consolidation by utilizing the significantly improved performance and scalability we realized with the Fujitsu M10 Servers. It will accelerate our cost reduction, including hardware procurement, software license fees, and operational costs. As we consolidate, we want to make use of the CPU Activation function that enables easy expansion of CPU cores."



In parallel with infrastructure optimization and security enhancement at the global level, Kokuyo promotes a work-style reform through the utilization of advanced Information and Communication Technologies. “At present we are working on a work-style reform. We would like to offer more value-added products/services through by providing an environment that further activates communication between employees.”, says Mr. Benki.

Kokuyo plans to further expand its business with mission-critical systems supported by Fujitsu M10-4 servers.

The benefit

- Database processing improved by 3x
- Reliable high-performance processors and excellent stability of the Oracle Solaris operating environment
- Large memory capacity increased the hit ratio of the databases
- Quick system replacement involving migration between Oracle Solaris servers
- Improved performance of the entire system, including application optimization and improvements of storage disk I/O performance
- Resulted in the new system using only two Fujitsu M10-4 servers, whereas previously used a total of five SPARC Enterprise M series database servers
- Reduction in operational costs by reducing the number of servers from five to two

Products and services

- Fujitsu M10-4
- FUJITSU Storage ETERNUS DX440 S2
- Oracle Database 11g
- FUJITSU Software PRIMECLUSTER
- FUJITSU Software Systemwalker

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