



LITTLEWOODS

MISSION-CRITICAL DATABASE MIGRATED TO A SINGLE SUN PLATFORM

KEY HIGHLIGHTS

Company

Littlewoods
www.littlewoods.co.uk

Industry/Market

Retail

Products/Services

- 2 Sun Enterprise™ 10000 servers
- Solaris™ 8 Operating Environment
- BMC CONTROL-M and BMC PATROL
- Oracle8i database
- VERITAS Volume Manager

Key Business Solutions

- Sun consultants performed migration study, then devised and extensively tested migration procedure
- Sun Prince2-certified project managers provided on-spec, on-time project completion
- SunSpectrum Gold™ service contract upgraded for 24x7 support provides mission-critical problem resolution and escalation paths

Key Business Benefits

- Ability to accommodate significant annual growth in transaction volume
- £1 million (US\$1.5 million) saved annually in operating costs
- Reduced system complexity, resulting in lower TCO
- Met aggressive 7 month time to market
- Currently sustaining substantially higher availability than previous Sequent system

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Group IT Director,
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As one of the United Kingdom’s (U.K.) largest private companies and a leading European fashion retailer, Littlewoods sells more than 70,000 different items at its 120 High Street stores and 130 “Index” catalog showrooms, as well as through its mail-order catalog and e-commerce Web site. All told, the company generates annual revenues exceeding £1.8 billion (US\$2.6 billion).

The vast majority of the data generated by the company is captured in its Customer Accounts Management (CAM) database. More than 40 business-critical applications—including order processing, customer queries, customer statements, customer relationship management (CRM) and data mining—interface in some way with this 550GB Oracle8i database, which had been running for the past four years on Sequent NUMA-Q servers.

With virtually its entire enterprise dependent on the CAM system, Littlewoods was understandably troubled that support for the infrastructure upon which it ran was sorely lacking. Nor would it improve: IBM, which had acquired Sequent, announced that it

would discontinue support for NUMA-Q at the end of 2001. “If we had an issue, and we did, it was incredibly difficult to sort out,” recalls David Hallett, Littlewoods’ Group IT director.

But, in 2000, even before learning of NUMA-Q’s demise, Littlewoods had become concerned that its servers’ existing processing power would soon prove inadequate to handle both the company’s long-term growth and the temporary, but crucial, traffic spikes during peak periods, when telephone and Web queries can increase five-fold.

A year earlier, Littlewoods’ NUMA-Q-based platform had failed, leaving the CAM system down for an entire eight-hour day and preventing customers from entering catalog orders into the database. The cost of that day remained vivid to Hallett. “Sales fell by £300,000, and not only were we losing business, but we were also paying 2,500 call center operators to do nothing.” Given Littlewoods’ increased reliance on e-commerce, downtime in the future could be even more disastrous since online business is conducted around the clock.

All of these factors compelled the company to migrate its CAM system to a server platform that could assure high availability, performance, scalability and serviceability.

CAM Migration Builds on Past Success with Sun

There was never any question that Littlewoods would turn to Sun for assistance with the CAM migration. In late 1998, when Hallett joined Littlewoods, he found a multi-vendor computing environment that required more skills and resources than the company could afford.

In keeping with an enterprise-wide trend at Littlewoods towards operational consolidation and integration, Hallett began gradually replacing the company's multi-vendor mainframe and UNIX-based computer systems with a single-platform network comprised of four Sun Enterprise™ 10000 servers. "Our systems administrators, many of whom were comfortable with the mainframe environment, appreciated the processing power, stability and reliability of the Sun Enterprise 10000 server," Hallett says. "At the same time, the Solaris™ Operating Environment was held in high esteem by our database administrators."

"By migrating from disparate servers and operating environments to a consolidated infrastructure based on Sun Enterprise™ 10000 servers and the Solaris™ 8 Operating Environment, Littlewoods has the room it needs to grow its business in any direction it desires."

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But, ultimately, it was a business-driven decision: "The main reason we chose Sun was because we had plans to grow the business, and we wanted a platform that would do just that," Hallett adds. "We wanted to move onto larger processors and were particularly attracted to the fact that the Sun Enterprise 10000 server allows dynamic domain sizing, which enables us to maximize the efficiency of the machine by allocating virtual

domains to each application. We also face varying demands on processing power at different times of the year, with the run up to Christmas obviously the busiest, and the Sun Enterprise 10000 server domains can be reallocated as needed."

Although its in-house IS resources are considerable, Littlewoods engaged Sun Professional Services in 1999 to assist with the migration of selected applications to the Sun platform—wanting to leverage Sun's expertise to help ensure a successful implementation of the hardware and operating environment. Then, in late 2000, the company decided to tackle the migration of its central application environment—the CAM system.

The CAM migration faced additional constraints: it had to be completed by the end of a bank holiday in May 2001 (it was determined that failure to do so might jeopardize the operation of the CAM system if it remained on the NUMA-Q platform). Plus, containing the cost of the migration was essential, since Littlewoods did not have a formal budget for the project.

Higher Performance with Lower TCO

Working with the Littlewoods IS team, Sun consultants helped analyze the migration options, define the migration specifications, and implement the entire migration project according to the Prince2 project management methodology. Sun consultants also conducted a Sun Performance Analysis and Capacity Planning Service to assess system performance both before and after the migration.

The migration included replacing two Sequent servers with domains on two Sun Enterprise 10000 servers and porting all the CAM data to the new servers. After exhaustive testing, the migration was completed on time and under budget, going live without a hitch on July 15, 2001. "Even with all the testing, I don't think any of us dreamt the migration would go as smoothly as it did," says Hallett.

Hallett is pleased that the consolidation onto the Sun platform has reduced Littlewoods' total cost of ownership (TCO) for its server environment. For the CAM system specifically, the company is saving nearly £1 million (US\$1.5million) annually in operating costs. Uptime has increased substantially since the migration, and preliminary tests have indicated that the Sun infrastructure will process the forecasted peak transaction loads without any difficulty.

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Step-by-Step Approach Minimizes Risk

U.K.-based Sun Professional Services consultants began the migration project with a feasibility study to determine Littlewoods' requirements and how best to satisfy them. The requirements were included in a Project Initiation Document, which set forth the scope of the project, identified possible risks and established the rules governing its design, implementation, timescale and quality metrics. "Sun Professional Services brought not only its expertise in Sun servers and the Solaris Operating Environment, but also a well-defined process for implementing change," Hallett says. "The structure this imposed on a complex situation made us feel immediately that, with Sun, we were in good hands."

As part of the project initiation, a project management organization was established and consisted of the following teams comprised of both Littlewoods and Sun staff as well as other vendors, when needed: Project Team, Technical Design Authority, Project Board and Steering Committee.

Once Littlewoods signed off on the Project Initiation Document, the team proceeded to the second stage—the "migration playoff"—where it evaluated several methods of moving data from the NUMA-Q environment to the Solaris platform. In

the third stage—"migration implementation"—the team built domains and clusters on the Sun Enterprise 10000 servers, ported customized C and COBOL code to the Solaris 8 Operating Environment, wrote a load test generator, and conducted multiple rounds of functional, performance and migration script testing over a period of eight weeks to identify and resolve potential pitfalls in the migration process.

The actual migration was planned for a period during which Littlewoods expected the traffic on the CAM system would be the lightest, minimizing both lost productivity and impact on interfacing systems. Migration of production data began at 9 p.m. Thursday evening and concluded Saturday morning at 7 a.m. It was somewhat of a marathon, according to Hallett, who points to the dedication of Sun's consultants. "There was no 9-to-5 attitude on the Sun team," he says. "They did what it took to do the job—and towards the end, that meant working around the clock."

Littlewoods new CAM system went live with 32 processors in the production domain and 18 in the failover domain; 8 more processors were added to the production domain to speed up the migration and catch up on the delayed processing of the Oracle database. After the system had been in production for a short time, a number of processors were removed for use elsewhere. "Littlewoods makes the most of Sun hardware by bringing boards in and out of various domains, as required," Hallett explains. "The flexibility of the Sun Enterprise 10000 servers provides the easy system scalability that is vital for Littlewoods' growth."

Sun Support Keeps Infrastructure in Top Shape

In production for several months now, the new CAM system is meeting or exceeding its performance targets for queries, orders, statement runs and other key parameters. To maintain this impressive track record, Littlewoods relies on SunSpectrum GoldSM support with uplifted 24x7 coverage to provide a variety of mission-critical support services.

Increasingly, Littlewoods is using the Internet to maximize its benefits from its SunSpectrum contract. Indeed, the company was one of the first Sun customers in the U.K. to make use of the Online Support Center; today, 70 percent to 80 percent of the company's support cases are logged online.

Littlewoods also has a Sun Support Services account manager, who has been working with the company since 1998 to define and revise its IT growth strategy. "Our Sun Support Services account manager understands our long-term needs and the history of our environment, and gives us the confidence to make the most of our Sun Enterprise 10000 servers," Hallett says.

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Perhaps what Littlewoods appreciates most about Sun support is its access to the VERITAS Oracle Sun (VOS) Initiative, a three-way strategic alliance that provides dedicated resources to resolving complex interoperability issues, including a Joint Escalation Center (JEC) that works to shorten the time to resolution. "Even companies like ours, that have consolidated much of their IT environment must still contend

with interoperability between servers, databases and applications," Hallett points out. "The VOS Initiative and JEC provides coverage for a key operating risk here at Littlewoods."

More Room to Grow with Sun Fire 15K Servers

Although Littlewoods believes its investment in the Sun infrastructure will help the company avoid another major migration for years to come, Hallett is considering optimizing price-performance further by upgrading his Sun Enterprise 10000 servers to Sun Fire™ 15K servers.

"The math is simple," Hallett explains. "The Sun Fire 15K server offers the same features as the Sun Enterprise 10000 server with double the performance. By utilizing all of our existing applications and tools, and running them on the same Solaris Operating Environment, we could further reduce our TCO on the new system."

Optimized for a variety of workloads and applications, the Sun Fire 15K server could allow Littlewoods to easily reallocate resources to additional applications. Already, the company is considering bringing its previously outsourced Web site in-house and running it on the Sun Fire 15K server.

"Moving from a NUMA-Q environment to the Sun Enterprise 10000 server has helped me to sleep at night," Hallett says. "And now, with opportunities the Sun Fire 15K server can give us to grow our business, the days are looking much brighter as well."

HEADQUARTERS SUN MICROSYSTEMS, INC., 901 SAN ANTONIO ROAD, PALO ALTO, CA 94303-4900 USA
PHONE: 650 960-1300 FAX: 650 969-9131 INTERNET: www.sun.com/service



SALES OFFICES

AFRICA (NORTH, WEST AND CENTRAL): +33 1 30674680 • ARGENTINA: +54-1-4317-5600 • AUCKLAND: +64 9 976 6800 • AUSTRALIA: +61-2-9844-5000 • AUSTRIA: +43-1-60563-0 • BEIJING: +86-10-6803-5588 • BELGIUM: +32-02-704-8000
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