


Consolidating Sun servers on an HP 9000
Superdome enables Belkin to maximize
ROI with HP-UX 11i business value

change
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– John Adcock, Network Services Manager
Belkin Corporation

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Solutions for the Adaptive Enterprise.



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With an annual growth rate of 35 percent, Belkin Corporation is one of the fastest expanding private companies in the United States. The Company designs and manufactures products for home, enterprise and mobile interconnectivity, such as KVM console switches and power protection devices.

While the Company serves as an Original Equipment Manufacturer (OEM) for other distributors and manufacturers, it also produces custom cabling for some clients. In order to provide the highest levels of customer service, Belkin turned to HP for a reliable and highly scalable IT infrastructure. Central to Belkin's success is the ability to rapidly adapt to changes in its customers' business, and a talent for quickly and effectively leveraging the data associated with the performance of its own products.

Protection of business critical processes drives change

Belkin relies on Oracle software solutions – Oracle 11i databases, Oracle manufacturing, financials, purchasing, human resources and payroll applications – for business critical functionality and processes. The Company has focused on optimizing the integration of discrete business functions, and has streamlined the dissemination of key business data across the enterprise. For example, sales call centers and the shipping warehouse are linked to the customer information databases for instant access to order information, making the availability of these systems critical for maintaining business operations.

John Adcock, Belkin's Network Services Manager, described the criticality of the IT infrastructure, "Protection of our business processes is paramount, if access to our key databases is denied in some way everybody's work comes to an abrupt halt. Our legacy infrastructure relied on a Sun Solaris 6500 to host the key databases, but it was an older system and was continually exhibiting performance issues. During the two years that it was in production, we were constantly being limited by the CPU and memory capacity. In addition, it suffered many failures in the middle of production hours."

Adcock initially turned to Sun for an appropriate replacement. He recalled, "Several Sun executives visited us to discuss their processor roadmap, and we started to evaluate the Sun Solaris 6800. However, during the visit the existing system went down yet again, and this was unacceptable. I started to look at other options."

He continued, "I wanted a highly available infrastructure capable of delivering superior performance, and with the ability to scale rapidly. At the same time I wanted to lower my total cost of ownership (TCO). I also felt very strongly that I did not want the added complexity of supporting a heterogeneous environment, and I wanted to take advantage of server consolidation where it made sense. Processing power continues to get less expensive while space, administration, training, and services have increased in cost – a correctly executed server consolidation strategy could leverage this situation to Belkin's advantage."

Server consolidation and virtualization with HP

Belkin already had a relationship with HP as it was running several HP 9000 servers with the HP-UX 11i operating environment for web access and to host warehouse automation systems. Adcock recounted, "I turned to HP because of the excellent interaction with the HP equipment and services I already had experienced. I made extensive use of my network of friends and counterparts in the industry to get an objective and unbiased perspective on HP's ability to deliver an infrastructure capable of meeting our business critical needs, and all of these conversations were very positive."

The Company had a total of 11 Sun servers handling production, test and quality assurance functions, and Adcock's decision to partner solely with HP had the potential to create a rather complex transition period if not approached correctly. He explained, "I didn't want the complication of an HP server running the database and a Sun server running the applications. In addition, I couldn't test an application on a Solaris platform and

obtain the appropriate level of confidence that the same code would function appropriately on an HP production system. So in thinking about transitioning the entire server environment to HP, I investigated HP's recommendations for virtualization and server consolidation to ensure that this would be of benefit to Belkin."

Adcock leveraged HP consulting expertise for the planning and design of the new infrastructure. He recalled, "HP came to the table numerous times to discuss my ideas for

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—John Adcock, Network Services Manager, Belkin Corporation

the conversion and consolidation, and to identify the correct equipment to accomplish our goals. With its leading HP-UX 11i virtualization capabilities, we chose to deploy an HP 9000 Superdome running HP-UX 11i, and partition it using HP Virtual Server Environment to accommodate the functionality from all of the original Sun servers."

He added, "A transition team from HP worked with us and a partner company to streamline the migration from the Sun servers. I involved HP in the implementation because of its expertise in successfully moving customers from Sun environments to its own. Secondly, even though I have a great group of people working for me, the consultants from HP are intimate with the HP 9000 Superdome server, and had an optimal and proven roadmap for the migration."

Running HP-UX 11i with its HP Virtual Server Environment, the HP 9000 Superdome – capable of holding 64 CPUs – was partitioned with HP-UX 11i nPars technology. For the production environment 18 processors were allocated for the database, eight CPUs for the applications, and another eight for the Advanced Planning/Supply Chain modules. This partitioning design was repeated for both the test and QA configurations. Finally, the HP Superdome had another ten processors installed on an instant-capacity basis, to be immediately activated if needed for scalability or redundancy. The original eight HP 9000 servers running HP-UX 11i hosting the warehouse automation applications have remained in production.

Meeting and exceeding expectations

System performance was a key criterion for the success of the new infrastructure. Vigorous testing by Belkin showed that the new system delivered on average, a 225 to 275 percent performance increase over the Sun Solaris technology it replaced. Adcock enthused, "We wanted the HP Superdome to give us a healthy performance increase over the legacy Sun server and it has not only met but significantly exceeded our expectations."

He added, "The reliability of the HP 9000 Superdome running HP-UX 11i has more than fulfilled my other requirements. The average downtime for the legacy servers was 50 minutes, and each of them failed six to eight times during a year, and always at the absolute worst times, such as financial closing and payroll runs. Since going live on the HP 9000 Superdome with its robust HP-UX 11i operating environment, we have never been down – not once!"

Mission Critical Services from HP help improve the service quality and mitigate the business risk associated with service interruptions. "The HP Critical Systems Support for the HP 9000 Superdome is the best system support that I have ever received in my entire IT career," noted Adcock. "Every quarter, mission critical experts from HP present us with statistical data, including system growth and performance information. They discuss the resolution of any trouble tickets that were opened that merit dialogue. It is an outstanding level of support, which helps us increase the value of IT to Belkin's business by reducing the risk of downtime, improving service levels, and expanding our operational efficiency."

Belkin also found the three-year support agreement with HP to be more cost effective than its previous solution, delivering a lower total cost-of-ownership with assured service. Consolidation of the legacy servers also afforded savings in data center floor space – the HP 9000 Superdome utilizes a third of the space that the Sun installation previously occupied and consumes one seventh of the power. Adcock reflected, "The TCO is not only improved due to the reduced floor space overhead and lowered power consumption, but also the fact that we no longer need one of the third-party software components used by the Sun servers for managing Oracle. The outlay for the legacy management software was \$140,000 per year and as the HP-UX 11i operating system has built-in volume management software, it completely negated the need for the third-party software license. More importantly, the biggest financial saving for Belkin is from the HP 9000 Superdome's performance increase, because it enables employees to be far more efficient."

Adcock believes Belkin is now better positioned for handling future growth. He outlined, "Recently, data volumes grew by 30 percent when we upgraded the Oracle software suite, and the HP 9000 Superdome successfully handled the additional processing required to run the new applications. The added capabilities provided by in-box upgrades on HP 9000 Superdome systems to multiple generations of Intel® Itanium® 2-based HP Integrity systems and HP-UX 11i compatibilities with future releases also will help us evolve as our business needs change. The HP Virtual Server Environment integrated with mission-critical capabilities on HP-UX 11i already has proven to be very agile – we can rapidly create the exact environments that we need for production or test instances."

At a glance

- **Company:** Belkin Corporation
- **Headquarters:** Compton, California
- **Founded:** 1982
- **Size:** 1100 employees
- **Telephone:** 310-898-1100
- **URL:** www.belkin.com
- **Primary business:** A leading technology manufacturer of connectivity solutions and enterprise options for the computer and consumer electronics user.

With the HP 9000 Superdome server hosting functions such as manufacturing and supply-chain planning, HP has helped Belkin improve the linkage between business and IT to meet surges in market demand effectively and efficiently, and complete business critical processes on time.

"The most frequent question I was asked was 'what did you want out of this?' and I always told everyone that I wanted an environment that would be highly available, able to deliver superior performance, capable of scaling rapidly, and all at a lower TCO. Without a doubt, HP has delivered all of this," commented Adcock.

He summarized, "HP has a collaborative style of working with us. Its technologies, services and consulting mitigated the risk associated with both the transition phase, and ongoing production processing. With its integrated, high-performance and virtualization technology, the HP 9000 Superdome running the mission-critical HP-UX 11i operating solution delivers a cost-effective environment that maximizes our return on investment, and enables our IT infrastructure to adapt easily to business changes."

Challenges

- Scale efficiently to meet 35 percent growth in annual sales.
- Drive operational changes to the bottom line and lower TCO.
- Deliver flexibility and higher levels of performance.
- Prevent system reliability and performance issues from compromising business functions.

Solution

- HP 9000 Superdome running mission-critical HP-UX 11i operating environment with HP Virtual Server Environment for business critical applications – Oracle 11i database, plus Oracle manufacturing, financials, purchasing, human resources and payroll applications – consolidated from 11 Sun servers.
- Mission Critical Services from HP to protect business processes.
- HP consulting services for streamlined migration.
- HP instant-capacity processors for redundancy and scalability.
- Eight HP 9000 servers running HP-UX 11i to host warehouse automation applications.

Results

- Average of 250 percent increase in performance over Sun.
- Very high availability with HP Serviceguard – no downtime relating to the HP 9000 Superdome since going live.
- Lowered TCO for the consolidated solution – one-third the floor space, one-seventh the power of previous environment and \$140,000 annual savings in management software.
- Investment protection and scalability built-in with in-box Itanium upgrades.
- Improved linkage between business and IT.

For more information on how working with HP can benefit you, contact your local HP sales representative, or visit us through the Internet at our world wide web address: www.hp.com

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