Planning in Real Time

Sun Microsystems' Network-Centric Architecture Is Making Tomorrow's Enterprise Resource Planning (ERP) Systems Feasible Today.

In the manufacturing environment of the 21st century, empowered workers in the office, throughout the plant, and in the distribution center will have immediate, real-time access to distributed data throughout the enterprise. The 21st century enterprise resource planning (ERP) system will provide the information employees need in a manner they can understand easily and quickly, with constant updates to assure accuracy. In 1996, we are seeing the emergence of this type of ERP system in today's open system, client/server, network-centric computing environment.

"Imagine five corporate planners in five different locations around the globe linking to a server containing the organization's orders, material levels, capacity information, and purchasing information," says Monte Zweben, president/CEO, Red Pepper Software, San Mateo, Calif., a leading ERP software vendor. "They can look at multiple scenarios of how they want the enterprise to operate by comparing and contrasting the different investments in inventory versus customer service levels—all taking place in the one server. They can model the entire supply chain in a distributed, client/server environment—this is unprecedented."

At Waters Corp., Milford, Mass., this worldwide leader in liquid chromatography (HPLC) analytical instruments has adopted the innovative approach envisioned by Zweben. Today, in Waters' enterprise-wide computer system, a single, high-performance database server installed at company headquarters in Massachusetts supports all key functions in the company's European offices, including distribution, finance, order entry, purchasing, accounts payable, order processing, and customer lead tracking.

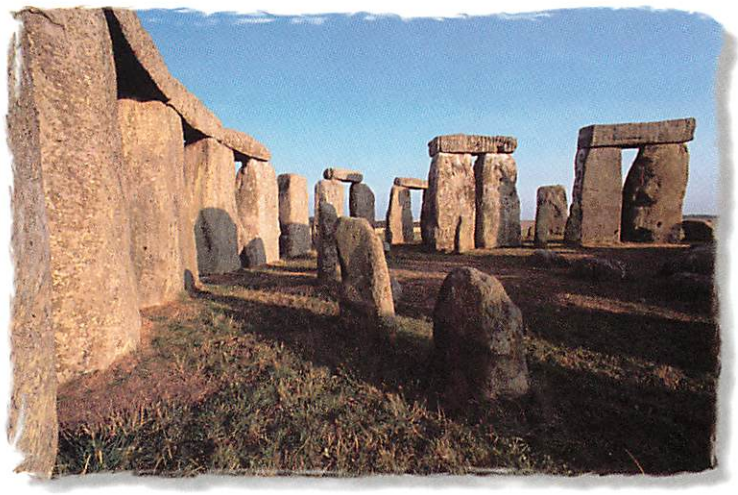
Networking is the enabling technology that lies at the heart of Waters' enterprise-wide system, according to Ken Renaud, Waters' director of MIS operations. Specifically, the company relies on frame-relay technology to provide the bandwidth necessary to support client/server worldwide. "Another key," Renaud says, "is a suite of integrated software applications from software vendor SAP, which provide the multi-language and multi-currency capabilities that are critical to supporting Waters' global operations."

Also critical for the success of Waters' global network is a Sun SPARC-based database server, which delivers the multiprocessing capabilities necessary to store and route applications and files to desktop PCs worldwide.

> *"Information professionals, faced with critical changes, naturally turn to companies with the most experience in UNIX."*
>
> **Bruce A. McIntyre, vertical marketing manager for technology, QAD Inc., Carpinteria, Calif.**

Today, hardware, operating system, and application software are being brought together by Sun Microsystems, MountainView, Calif., a leader in open client/server computing hardware solutions. "Sun offers the robust networking, scalability, and price/performance required by manufacturers," says Zahra Ardehali, business development manager, reseller channel, at Sun. "Sun is partnering with manufacturing's leading independent software vendors, original equipment manufacturers, value-added resellers, and systems integrators to deliver a total manufacturing solution for our customers," she says.

This fact has become evident within the applications software community. More companies are porting their manufacturing systems to Sun as they move to open systems and the UNIX operating system. Top manufacturing solutions ven-



TWO IMAGES RECOGNIZED THROUGHOUT THE WORLD AS MANUFACTURING WONDERS

QAD

QAD is a leading developer and global supplier of integrated business software and services for the manufacturing industry. QAD's time-to-benefit methodology makes its MFG/PRO software fast to implement and easy to use and maintain. With implementations in more than 65 countries, and software available in 24 languages concurrently, QAD gives you the tools necessary to gain a distinct competitive advantage.

And as for Stonehenge... it is beyond explanation.

QAD Global Marketing, 6450 Via Real, Carpinteria, California USA 93013 Telephone (805) 565-9404 http://www.qad.com

dors such as Avalon, Baan, Oracle, QAD, and SAP are finding success with Sun at sites worldwide, says Stew Plock, ERP/supply chain market development manager at Sun. Implementations are found at some of the most famous names in discrete, repetitive, and process manufacturing: Amoco, AT&T, Ciba-Geigy, Dunlop Tire, Ford of Australia, GM Hughes, Johnson & Johnson, Kohler, Panasonic, Reynolds & Reynolds, Siemens AG, Xerox, and Yamaha—to name but a few.

Why have manufacturing companies like these moved their critical information systems from the traditional mainframe environment to open systems? "The UNIX operating system is the backbone of the open systems movement, allowing a wide variety of platforms to be supported and interconnected," says Plock. "Customers are not locked into a single vendor for hardware or software as is the case with proprietary mainframe and minicomputer systems. UNIX provides a true multi-tasking environment that offers high performance at both the desktop workstation client and data center server."

Anchor Glass chose Red Pepper's ERP solution running on Sun hardware to streamline production scheduling and to provide real-time "availability-to-promise" for customers. Today, when Anchor customers place an order, they receive a reliable shipment date in seconds. As part of the order entry transaction, the software automatically reserves product for the order.

As part of its business process re-engineering program, Anchor Glass Container Co., Tampa, Fla., chose Red Pepper's ERP solution running on Sun hardware to streamline production scheduling and to provide real-time "availability to promise" (ATP) for customers. "We wanted to work with a supplier who had a proven real-time scheduling solution," says Arun Vedhanayagam, director of process development at Anchor. "Red Pepper already had the technology operating at customer sites."

Today, when Anchor customers place an order, they receive a reliable shipment date in seconds. As part of the order entry transaction, the software automatically reserves product for the order. The system can reserve available inventory, scheduled production, or available production capacity. "Red Pepper enables our production scheduling to reflect the nature of our business," Vedhanayagam explains. "We can respond immediately as customer requirements change."

Through its integration with Anchor's J.D. Edwards business system, the ERP software has visibility of current activity, schedules, and any existing inventory across all of Anchor's plants. This feature enables it to integrate the entire supply chain and provide a reliable shipment date. The system further simplifies clerical effort by automatically creating a work order in the J.D. Edwards' shop floor control system. The result is a 60% reduction in the time and effort required to schedule and launch a customer order.

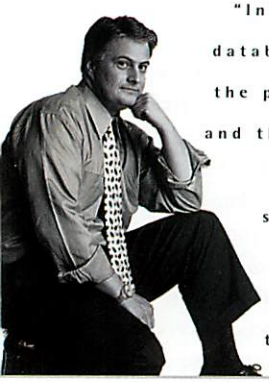
With the open system concept making it easy for systems from a variety of sources to work together, why are manufacturers like Waters and Anchor Glass looking at Sun as their primary platform supplier? "Experience is one reason," says Bruce A. McIntyre, vertical marketing manager for technology at ERP provider QAD Inc., Carpinteria, Calif. "Information professionals, faced with critical changes, naturally turn to companies with the most experience in UNIX. Sun has not only specialized in UNIX implementation since the company was founded, it has been at the leading

Baan's Amal Johnson on Informix.

"When Baan develops resource planning software, we try to anticipate the problems our customers may face tomorrow.

Partnering with Informix gives us the ability to create software that is extensible and configurable to any stage in a customer's business life cycle. Because we believe the faster you adapt to change, the faster you'll become an industry leader."

Amal Johnson
President, Baan Americas



"Informix isn't just about database software. We have the people, the technology, and the partners, like Baan, to make our customers successful today and in the future, no matter how unpredictable their business may be."

Tony DeCicco
Vice President of Professional Services, Informix

At Informix, we deliver innovative database technology for a growing number of industry leaders worldwide. By teaming with companies who share our vision, we provide our customers with the solutions they need to stay ahead of change, make the most of emerging opportunities, and gain a competitive edge in business.

FOR FREE INFO CIRCLE 487 ON CARD

INFORMIX®

www.informix.com

edge of the development of UNIX into the open system it is today."

Indeed, Sun is well positioned to help manufacturers take advantage of open systems and UNIX. Sun is the world's leading supplier of UNIX workstations and servers, holding more than 37% market share, nearly twice the second place company, according to IDC, a Framingham, Mass.-based market research firm.

Another research firm, Dataquest, Santa Clara, Calif., shows that Sun is the leading supplier of computers for technical applications in manufacturing, such as mechanical computer-aided design (MCAD) and electronic design automation (EDA). IDC also determined that Sun is the world's leading platform for UNIX-based relational database management systems (RDBMS), the key to open system computing.

"The UNIX operating system is the backbone of the open systems movement, allowing a wide variety of platforms to be supported and interconnected."

Stew Plock, ERP/supply chain market development manager, Sun Microsystems, Mountain View, Calif.

Within the UNIX marketplace, Sun's Solaris 2 operating system has become known as a manufacturer's ideal hardware solution with its extremely fast average response times—a millisecond or less—supporting most real-time applications. Connectivity to a variety of environments allows Solaris to exist with widely installed networks such as DECnet, IBM SNA, NetWare, X.25, and OSI. It has the ability to run programs developed for the ubiquitous PC through the use of Wabi, an interface that allows off-the-shelf Microsoft Windows 3.x applications to run in the UNIX environment.

"Critical to the changeover from centralized to client/server systems is the ability of UNIX to support the vast array of performance needs manufacturers have, from desktop systems to mainframe-class servers," says Sun's Ardehali. "Sun provides a platform that can support the full range of technical and business requirements in manufacturing today and into the future. From the SPARCstation desktop client to the SPARCservers that form the core of the data center, all the way down to the embedded SPARC processors in machine and process control systems, Sun has the scalability to run the information requirements of the largest or smallest enterprise."

Solaris, for example, provides for binary compatibility from enterprise-class database or ERP servers down to the embedded boards used in machine control on the shop floor. With high-availability features such as disk mirroring and automatic systems recovery, Solaris is able to provide fault-tolerance for mission-critical manufacturing applications.

And with Solaris as the underlying system, applications from many vendors can be employed, interactively, with a RDBMS as the foundation. Database companies such as Oracle, Sybase, Informix, and others are running their products on Sun with outstanding results. "The ERP and MRP II [manufacturing resource planning] systems that manage the critical requirements of manufacturing easily integrate with these databases to provide the information for decision making at all levels," says Sun's Plock. "Other applications, both mainstream and niche, can be chosen from a wide selection of best-in-breed software, with confidence that, on Sun, they will work seamlessly together."

Sun's strategy is to develop high-performance technology for four key areas in manufacturing: engineering, process control, product data management (PDM), and MRP II/ERP. With extensive partnerships with vendors of the highest quality and the most integrated applications in each area, Sun is positioned to take companies well into the next century of performance manufacturing.

ResponseAgents

Optimize Global Supply Chains

Enterprise ResponseAgent™
Enterprise-wide supply chain optimization
Sales ResponseAgent
Real-time sales order promising of supply chain resources
Production ResponseAgent
Integrated planning and scheduling for production facilities

For more information, phone, fax, email or browse:

Phone:	415-525-3300
FAX:	415-341-8064
email:	info@pepper.com
World Wide Web:	http://www.pepper.com

RED PEPPER
SOFTWARE COMPANY

Call For Your Free Demo Disk

Available now for Microsoft® Windows 95 and NT

FOR FREE INFO CIRCLE 490 ON CARD