



February 2003

HPC Times

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Cluster News

Leiden University in the Netherlands has purchased a 32-node dual Intel® Xeon™ cluster with Myrinet connectivity that will be used in their theoretical chemistry group for quantum chemistry and quantum dynamics calculations. Major projects include formation and storage of molecular hydrogen as a clean fuel in a PIONIER-project of Dr. Geert-Jan Kroes, as well as fundamentals of astrophysics and astrochemistry in research of Dr. Marc van Hemert.

Dr. van Hemert and Dr. Kroes of Leiden University commented: "We purchased our first Microway cluster in 2001 because they provided detailed information and the sales team was easy to work with. Now they have beat the competition again and we have our second Microway Beowulf cluster."

The University of Maryland has purchased a 25-node dual Intel® Xeon™ cluster with Myrinet for atmospheric research and numerical weather prediction. "We purchased from Microway because, not only are they an established name, they had a competitive price, friendly customer service and worked with me extensively to custom configure the system," said scientists Alfredo Nava-Tudela and Gyorgyi Gyarmati.

Microway Hires Storage Business Development Manager

Microway has brought Bob Condon on board in the role of storage business development manager. Bob will be responsible for developing partnerships and solutions designed to meet storage requirements for Microway customers in traditional HPC markets and expanding Microway's role into new industry verticals.

Areas of focus will include Fibre Channel Storage Area Networks (SAN), Network Attached Storage (NAS), Global File Systems (GFS), virtualization, Storage Resource Management (SRM), backup and disaster recovery protection.

Bob has 20 years experience in the IT industry with companies such as IBM, DEC, Tivoli, and two innovative startup companies. Bob's last 10 years have focused exclusively on the data storage market.

Please feel free to contact Bob at bcondon@microway.com or 508-732-5540

Microway, Inc. and Apex Sign Professional Services Agreement

Microway and Apex Digital Systems, one of the foremost services-based technology providers for life sciences, announced a professional services program for the life sciences market in early February.

This agreement enables Microway and Apex to jointly offer a fully-integrated package of HPC products and professional consulting services, customized to individual customers. The service areas include evaluation and recommendations for data warehousing, project management, network/data center design, custom software installations, integration and management systems that best suit your custom needs.

“We offer expertise and proven experience in virtually every aspect of research computing” said Manuel Mattke, President and CEO of Apex. “Our initial consulting engagements are structured to provide useful results quickly and are essentially a reliable way for our clients to best align appropriate technologies with scientific goals. We have been installing, managing and supporting clusters for several years and have a thorough understanding of what works best for end-users. We have long recommended Microway and are pleased to have established a more formal relationship with this outstanding company.”

**Parallel
Thoughts
by Charley
Jones, MSTI**

MPI Software Technology

MPI Software Technology, Inc. (MSTI) is proud to announce that Microway is a new reseller of MSTI's flagship product MPI/Pro. MPI/Pro provides high performance message passing middleware for parallel computing. MPI/Pro improves performance of clusters running applications such as CFD simulation, weather modeling, financial modeling, seismic exploration, and protein folding. MPI/Pro is by far the best implementation of MPI. MSTI's customers routinely see at least a 20-30% performance increase over freeware for most applications.

MSTI White Papers:

- ▼ [“Software Architecture and Performance Comparison of MPI/Pro and MPICH.”](#)
MPI/Pro currently supports the MPI-1.2 standard plus InfiniBand, Myrinet and other Systems Area Networks such as Gigabit Ethernet.
- ▼ MPI/Pro for InfiniBand white paper - [“Programming the Infiniband Network Architecture.”](#)

MPI Software Technology, Inc. is an award-winning, leading standards proponent and commercial developer of parallel programming environments and middleware for scalable computing, high performance embedded computing, and cluster computing.

**Microway
Spotlight**

Microway Spotlight on Terri Klaila, Vice President Systems Division

Before joining Microway in 1986 as a member of the technical support staff, Terri gained many years' experience in the biomedical hardware field as well as in the service end of computer retail. Currently, Terri manages all Microway hardware and software integration personnel in Microway's cluster division. Her expertise ranges from older multiprocessor and parallel environments (such as transputer and i860 based products) to current Intel,

Alpha, and AMD offerings in the HPC market. She is committed to providing customized Beowulf solutions that offer both reliability and speed to meet the most challenging goals of those in the supercomputing arena. From chipsets, to high end interconnects to special storage needs, the process of adopting and learning new technologies is one that she enjoys.

Terri holds an Associate Engineering Degree in Biomedical Engineering from Franklin Institute of Boston and completed additional authorized service training from numerous computer companies such as Compaq, IBM and NEC.

We asked Terri to provide her insights on the HPC market and today's issues:

You've witnessed a lot of changes in the HPC market during your career, which have made the biggest impact?

The availability of MPI, PVM and HPF supported parallel models has impacted the HPC market greatly. Distributed computing (client/server model) replacing the shared memory model found in transputers, i860s etc. The need for more functionality versus performance mentality that eventually evolved led to the introduction of commodity systems (Intel and AMD) operating under the open source operating system of Linux (Avalon Project/NASA/1998).

What are today's challenges for HPC users and how do you recommend they overcome them?

Two challenges for HPC users remain the porting of existing codes, and maintaining their large clusters with respect to both hardware and software stability. Overcoming these challenges consists of many tasks from choosing the right software paradigm to the compiler that offers the best in performance but still maintains good portability. Choosing a vendor that can offer expertise in both hardware and mpi/compiler support can prove to be very helpful. Keeping up with the constant changes found in the open source community and stress testing the final results is a battle best fought at a vendor's location rather than in the field. For hardware stability, the use of high quality components and providing adequate power and cooling still remains the key to cluster stability.

What is the best way for customers to evaluate new technology?

Discussing new technology offerings first with knowledgeable computer specialists and then running a benchmark sample of their specific application on the platforms in question is best. Whether obtaining the hardware internally or remotely logging in to a vendor's prospective systems, one can get a feel for what performance gains can be seen by both the hardware as well as the numerous compiler offerings.

What's ahead for HPC technology in the next few years?

The continued evolution of faster interconnects (InfiniBand, etc.) and high end processor-based platforms offered in the smallest packaging allowable. Perhaps alternative solutions in regards to delivered power to these newer smaller platforms. Potential for running even more applications previously reserved for high end RISC or main frame platforms with the emergence of more commodity based 64 bit offerings. The implementation of GRID computing resulting in future collaborations of many researchers/universities.