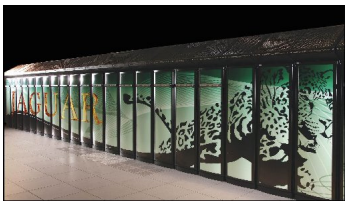
ICL NEWSLETTER

JULY 2009

Jaguar and Kraken Due For Upgrades



ORNL's Jaguar and UT/ORNL's Kraken will be receiving upgrades soon. Jaguar's upgrade with new AMD "Istanbul" processors might be enough to propel the Cray XT5 to the top of the Top500, surpassing LANL's IBM Roadrunner as the world's fastest supercomputer. For more information about the upgrades, see Frank Munger's **Atomic City Underground blog**.

33rd Top500 List Released

The latest edition of the Top500 world's most powerful supercomputers was released last month. Still dominated by US machines at the top, the new top 10 now includes two German machines - Forschungszentrum Juelich's (FZJ) IBM called JUGENE and a Bull Novascale/Sun SunBlade machine called JUROPA, also at FZJ. For more information about the newest list unveiled June 23rd, see the **Top500 press release**.

ICL Now on Twitter

In an effort to take advantage of the latest social networking tools and further expand ICL's exposure, we now have a Twitter account. Just set up a few days ago, the new account has already attracted the Knoxville News Sentinel as a follower. Visit the **ICL Twitter site**.

SOFTWARE RELEASE

CLAPACK 3.2.1

CLAPACK 3.2.1 was released on June 25th and can be found on the **CLAPACK website**. Using F2C, CLAPACK is generated from LAPACK (3.2.X), which uses F90 and F95 constructs in some instances. F2C does not support those constructs but works because the authors modified F2C to include them, then corrected others by hand tuning. CLAPACK functions without any FORTRAN compiler and is thread safe. More detailed information can be found on the **LAPACK website**.

RECENT PAPERS

Kurzak, J., Dongarra, J. "**Fully Dynamic Scheduler for Numerical Computing on Multicore Processors**," Lawn 220, June 4, 2009. **PDF**

Agullo, E., Hadri, B., Ltaief, H., Dongarra, J. "**Comparative Study of One-Sided Factorizations with Multiple Software Packages on Multi-Core Hardware**," SC'09 International Conference for High Performance Computing, Networking, Storage and Analysis (accepted). Portland, Oregon, 2009. **PDF**

RECENT CONFERENCES

JUNE 1-5 Portland, OR
SC09 June
George

JUNE 8-10 Menlo Park, CA
MPI Forum
George

JUNE 9 Arlington, VA
DARPA AACE Characterization Meeting
Piotr

JUNE 14-18 San Diego, CA
Scientific Discovery through Advanced Computing (SciDAC 2009)
Hatem

JUNE 15-18 San Diego, CA
DoD Users Group Conference (UGC) 2009
Dave, Tom

JUNE 22 - 25 Arlington, VA
TeraGrid 09
Haihang

JUNE 23 - 26 Hamburg, Germany
International Supercomputing Conference - ISC'09
Heike **PDF**

JUNE 28-29 Paris, France
International Exascale Software Project
Terry, Tracy, Jack, Teresa

INTERVIEW

Henri Casanova

ICL Alumnus (1995-1998)

How did you learn about ICL and what led you to join the group?

As I was finishing my undergraduate degree in France in the early 90's I took and enjoyed a course on parallel computing. I started by Master's Degree working with the professor who taught the course, and for my thesis he suggested that I extend some software called Parallel Virtual Machine (PVM) so that it would be more efficient on what are now defunct supercomputers. Since PVM was developed at ICL at that time, I was involved with the group since the very beginning of my research career. At that time I had no idea where Tennessee was (I knew only of Davy Crockett). By the end of the project, my advisor told me there would be a possibility to meet Jack and chat. The notion of doing a Ph.D. in Tennessee was bounced around for, oh, a good 2 seconds, before I jumped on the opportunity and moved to Tennessee.

You began your career at ICL as a graduate research assistant and left as a Post-Doc. Professionally, what all have you done since leaving UT?

After leaving Tennessee, I moved to San Diego, California and joined Prof. Fran Berman's group as a researcher in the Computer Science and Engineering (CSE) Dept. at the University of California San Diego (UCSD). That was around January 1999. After two years, while I was thinking that it might be a good idea to become a professor, Fran became the director of the San Diego Supercomputer Center (SDSC). I opted to stay in San Diego to take over her research group, with a joint position between CSE and SDSC. In 2005, after 4 exciting but rather hectic years, I decided it was time to try for a standard professor position again. At that time, though, it had become clear that living in a place with seasons or in a place without surfable waves would result in unbearable hardship. And so I accepted a position in the Information and Computer Sciences (ICS) Dept. at the University of Hawaii at Manoa (UHM), where I now have a small research group of between 3 and 5 students.

Tell us about how your experiences at ICL prepared you for being a college professor?

One of the goals of a professor at a research university is to have research money. Securing funding is one thing that ICL's always done very well. As soon as I defended my Ph.D. thesis, I was involved in the planning and writing of grant proposals, which was an invaluable experience. Compared to other "young" Ph.D.s I felt that I was much better prepared for the mad race for research funds. Also, while working at ICL, I was able to travel to many workshops and conferences, much more than the average Ph.D. student I would say. This allowed me to create a network of acquaintances worldwide, many of whom later became close collaborators and friends. Over the years I have published many research articles that were co-written with researchers I met as an ICL student. Securing funding and publishing are two fundamental activities for a professor, and in both cases my ICL experience helped me tremendously. Also, that uncanny ability to not sleep before deadlines that ICL people seem to develop.

What are some of your fondest memories of working in the group?

The Friday lunches rank pretty high, as free food is like ambrosia for graduate students. Besides, it's not common in a university to have a research group with such a large number of people that there is a true sense of a community along with its social events. Also, this is a detail, but at the time the department was in Ayres Hall, and although the building had many shortcomings (the full-fledge utilities workshop in the men's room on the first floor, anyone?), there was a sense of being part of a historic campus I really liked. But I have to say that my fondest, if very fuzzy, memory is when, after a party graciously hosted by Jack at his home, he had to make a sleepy appearance on his deck at about 2AM to indicate that perhaps us stragglers should contemplate going home since beer had almost ran out anyway.

Would you share some things you miss about Tennessee and/or ICL?

One thing I miss about Tennessee is the Southern accent. I know this is very odd for a Frenchman, but Tennessee is the first place in which I lived in the U.S. and as a result the Southern accent feels a bit like home to me. I could say that I miss barbecue and other Southern fares, and to some extent it's true. But, let's be honest, after 6 years in California and 4 years in Hawaii I now live off tofu and seaweed. I miss some of the brainstorming sessions at ICL, which were often truly inspiring. Oh yeah, and the smell of microwaved moonpies in the morning.

PEOPLE

Visiting Students

Just as last year, ICL is hosting a group of high school students this summer. Coming from Northside College Preparatory and Lindblom Math & Science Academy, two inner-city high schools in Chicago, the following students will be visiting and working with the research staff from July 6th through July 25th. These students will also have an opportunity to present their work during a lunch talk on July 24th.

Aral Johnson

Alexandra Hicks-Hardiman

Adriana Garties

Ronald Tam

Fernando Navarro


Matt

Departure

Matt Skinner, a graduate research assistant who joined the group in 2008, will be graduating in August. Though Matt has already returned home to Georgia, he will continue to work for the group. Also congratulations to Matt for successfully completing his Masters pilot last month

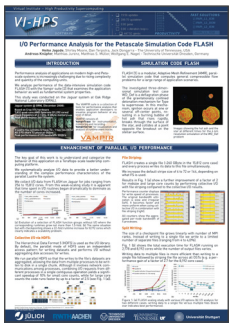
Awards


Heike

Congratulations to Heike and her co-authors (see the thumbnail) for winning best Research Poster, titled "I/O Performance Analysis for the Petascale Simulation Code FLASH," which she presented at **ISC '09** last month.


Haihang

Congratulations to Haihang for successfully defending his PhD dissertation on June 15th.



I/O Performance Analysis for the Petascale Simulation Code FLASH

RECENT LUNCH TALKS

JUNE 5 Dave Cronk
Testing various MPI and MPI-2 standards PDF

JUNE 12 Stan
Dense Linear Algebra for Hybrid Architectures PDF

JUNE 19 Richard Barrett
High Power Electromagnetic Wave Heating in the ITER Burning Plasma: Pragmatically Programming the Path to Practically Petascale PDF

UPCOMING LUNCH TALKS

JULY 3 No lunch talk (Holiday)

JULY 10 Tabitha Samuel

JULY 17 Jeff Larkin

JULY 24 Chicago high school visitors

JULY 31 Jakub

DATES TO REMEMBER

JULY 3 University will be closed

JULY 4 Holiday (Independence Day)