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Institute of Electrical and Electronics Engineers

Los Alamos Section ---Serving Northern New Mexico

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IEEE CS TALK ON
Supercomputing in Small Spaces

Join the Los Alamos Section and
Computer Society,

In late

JANUARY, 2004

Teri Roberts 505-665-2177

Wu-Chun Feng, Principal Investigator for the Supercomputing in Small Spaces Project, is planning to give a talk for the Computer Society in late January 2004.

Biographical Sketch

- Team Leader, RADIANT: Research And Development In Advanced Network Technology, Los Alamos National Laboratory, 2000-present.
- Adjunct Assistant Professor, Ohio State University, 2000-2003.
- Institute Fellow, Los Alamos Computer Science Institute, 1999-present.
- Adjunct Assistant Professor, Purdue University, 1998-2000.
- Technical Staff Member, Los Alamos National Laboratory, 1998-present.
- Assistant Professor, University of Illinois at Urbana-Champaign, 1996-1998.
- Research Consultant, Vosaic Corporation, 1997.
- Research Assistant, Real-Time Systems Laboratory, University of Illinois at Urbana-Champaign, 1992-1996.
- Research Consultant, Space Station Project, NASA Ames Research Center, 1993.
- Teaching Assistant, University of Illinois at Urbana-Champaign, 1990-1991.
- Applications Programmer, IBM T. J. Watson Research Center, 1990.

Overview

Over the past two decades, the goals in high-performance computing have been to improve performance and price/performance; and likewise, these are the same two metrics used to award the Gordon Bell Prize at SC (formerly Supercomputing) every year. However, after two decades of focusing on improving performance and price/performance, our belief is that the key metrics of this decade will be efficiency, reliability, and availability.

With the above discussion in mind, our first attempt at achieving Supercomputing in Small Spaces involved a novel cluster systems architecture called the Bladed Beowulf. Designed by RLX Technologies and integrated and configured at Los Alamos National Laboratory, this Bladed Beowulf cluster consisted of compute nodes made from COTS parts mounted on motherboards blades called RLX ServerBlades TM. Each motherboard blade (node) contained a 633-MHz Transmeta TM5600TM CPU, 256-MB memory, 10-GB hard disk, and three 100-Mb/s Fast Ethernet network interfaces. Twenty-four such ServerBlades mounted into a rack-mountable 3U "RLX System 324" chassis, formed our first "Bladed Beowulf" called MetaBlade. Our next-generation (and current) Bladed Beowulf dubbed "Green Destiny" is a 240-node version of the MetaBlade.

Questions or concerns, please email Teri Roberts: troberts@rt66.com or Lynda Towers, towers@lanl.gov

STORY OF THE CHRISTMAS ANGEL

The Christmas angel

Deep in the forest, there lived a family and they were poor but happy. One year they saved up enough to buy a turkey for Christmas. So

when they were about to tuck in, there was a knock at the door. The man went to answer it, and it was a beggar. He was rather thin and who knows when he had his last decent meal. He asked for some food so the man let him in and the beggar ate all their food. He said thank you and gave them a tablecloth and told them to put it on their table tomorrow. The whole family went hungry for the night. The next day the mum put the tablecloth on the table and to her surprise lots of food appeared on their table. Then an angel appeared and he told them that he was a Christmas angel. And that is the story of the Christmas Angel.

I wish you and yours a Very Merry Christmas and a Happy New Year!!

Attached Ballot for Los Alamos Section Officers. Please email or mail you vote to:

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