The Eighth Workshop on Solving Irregularly Structured Problems in Parallel

Efficient parallel solutions have been found to many problems. However, there still exists a large class of problems, known as irregularly structured problems, that lack efficient solutions and systems support on parallel computer architectures. Some of the issues that arise in the solution of irregularly structured problems include, for example, non-uniform data access and difficulty in scheduling tasks to achieve balanced work load. Graph problems and sparse matrix computation are good examples of irregularly structured problems.

The 2001 Workshop on Solving Irregularly Structured Problems in Parallel (Irregular 2001) is the eighth in the series, after Geneva, Lyon, Santa Barbara, Paderborn, Berkeley, San Juan, and Cancun. The series of workshops aims at fostering the cooperation among practitioners and theoreticians of various relevant fields. Some of the research areas related to parallelism of irregular problems include, but not limited to, data structures and graph algorithms, numerical algorithms, mesh and sparse matrix computations, approximation and combinatorial optimization, parallel languages and models, compiler optimization and runtime systems, caching, load balancing and scheduling, resource management (I/O, memory, and CPU), performance prediction and simulation, Internet computing, and data-intensive applications.

For Irregular 2001, the papers presented cover areas such as sparse matrix partitioning, preconditioning, mesh refinements, data partitioning, and memory performance.

Chair

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Preliminary Program

9:00-9:30	"A Scientific Data Management System for Irregular Applications" J. No, R. Thakur, D. Kaushik, L. Freitag, and A. Choudhary
9:30-10:00	"On the Memory System Performance of Sparse Algorithms" J. Fu, A. Pothen, and D. Mavriplis
10:00-10:30	Break
10:30-11:00	"A Fine-Grain Hypergraph Model for 2D Decomposition of Sparse Matrices" U.V. Catalyurek and C. Aykanat
11:00-11:30	"A Parallel Quadtree Algorithm for Efficient Assembly of Stiffness Matrices in Meshfree Galerkin Methods" C. Cartwright, S. Oliveira, and D.E. Stewart
11:30- 1:30	Lunch
1:30- 2:30	TBA P. Plassmann
2:30-3:00	"Status and Directions for the PYRAMID Parallel Unstructured AMR Library" C.D. Norton, J.Z. Lou, and T.A. Cwik
3:00-3:30	Break
3:30-4:00	"Adaptive Grid Refinement and Multigrid on Cluster Computers" W.F. Mitchell
4:00-4:30	"An Algebraic Preconditioner for the Schur Complement System" G. Larrazabal and J.M. Cela
4:30-5:00	"Partitioning for Complex Objectives" A. Pinar and B. Hendrickson

Those underlined are the speakers.