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Editors
Lionel M. Ni and Mateo Valero

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Edited by

Lionel M. Ni and Mateo Valero



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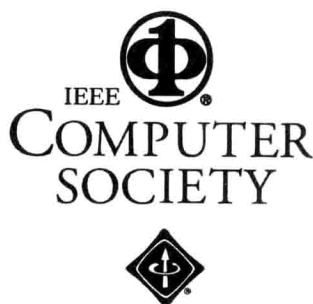
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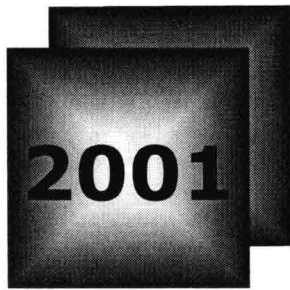
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International Conference on Parallel Processing

ICPP 2001

Message from the General Co-Chairs

Welcome to Valencia and to ICPP'01! This is the 30th in a series of the International Conference on Parallel Processing (ICPP). During the past 30 years the field of parallel processing has matured and expanded into many areas of computer and communications technologies. Now that we entered the 21st Century, parallel processing is expanding faster than ever. Just to give a few examples, the DOE ASCI program is pushing the state-of-the-art in parallel supercomputer design, currently approaching petaflop performance. Also, the ever faster growing Internet market doubles bandwidth requirements every six months, pushing the development of high-speed switch fabrics for IP routers. Moreover, the availability of chip multiprocessors (CMP), new ways to exploit parallelism (e.g., ILDP) and new standards for parallel I/O and interprocessor communication (e.g., InfiniBand) make research on parallel processing more attractive and promising than ever. Therefore, we expect parallel processing to become one of the dominant fields in computer science and engineering.

The Technical University of Valencia (UPV) is very pleased and honored to host ICPP'01, which is for the first time being held in Europe. This is a young University in a country with several universities founded more than 500 years ago, committed to form students in most engineering disciplines and to transfer technology to the local industry to support regional development. The city of Valencia adds its tourist attractions. Valencia is worldwide known because of paella, fallas, and oranges. Old monuments, modern attractions, and sunny beaches make it the perfect place to relax before or after the conference.

As General Co-Chairs, our main responsibility has been to coordinate the tasks carried out by other willing and talented volunteers. First of all, we would like to thank Profs. Mike Liu, Steve Lai, and Tse-Yun Feng for their encouragement and continued support. Very special thanks go to Prof. Lionel Ni and Mateo Valero, who served as Program Co-Chairs, for doing an excellent job of selecting high-quality papers for presentation at the conference. Special thanks also go to Prof. Timothy M. Pinkston, who served as Workshops Chair, and to the workshop organizers. We would also like to thank Prof. Eduard Ayguade, Program Committee Webmaster, for handling all the electronic submissions and reviews, as well as Prof. David Lilja and Per Stenstrom, who served as Award Co-Chairs and selected the best conference papers.

Special thanks are due to the Local Arrangements Co-Chairs, Prof. Pedro Lopez and Antonio Robles, who took care of local arrangements and organized the social events. Thanks are also due to Prof. Yu-Chee Tseng for serving as Publications Chair, to Dr. Donglai Dai, for serving as Publicity Chair, and to Dr. Jose Flich and Ms. Elizabeth O'Neill, for serving as Registration Co-Chairs.

We would also like to thank Dr. Greg Pfister, Prof. Per Stenstrom, and Dr. Iwao Toda for accepting our invitation to be the keynote speakers, and to Prof. Josep Torrellas, for organizing the panel session. We trust that you will enjoy the keynote speeches and panel discussion, which will present innovative ideas and controversial topics.

Finally, we would like to thank Prof. Justo Nieto, Rector (President) of the UPV for his encouragement and support, as well as the funding support from UPV, CICYT, and Generalitat Valenciana.

We hope all of you will enjoy the conference as well as the beautiful city of Valencia with all its culture, historical monuments, attractions for tourists, and kind people.

Sincerely,

Jose Duato, Universitat Politècnica de Valencia, Spain

Dhabaleswar K. Panda, Ohio State University, USA

Message from the Program Co-Chairs

As Program Co-Chairs, we are pleased to present to you the proceedings of the 2001 International Conference on Parallel Processing (ICPP'01) to be held in Valencia, Spain from September 3 to 7, 2001. The Program Committee consists of 64 individuals from academia, government, and commercial sectors. The committee spared no effort in reviewing and selecting the papers. This message gives an overview of the technical program.

The Program Committee met on April 28 in Chicago. Of the 139 submitted technical papers, 65 were selected for inclusion in the program. The selection was based on originality, technical content, and relevance to the conference. Almost all papers were reviewed by at least three reviewers. The accepted papers are organized into 22 technical paper sessions. Even with parallel sessions, however, many papers of quality and merit could not be accommodated in the program. We are grateful to the Program Vice-Chairs: Jose Fortes, Chung-Ta King, Prasant Mohapatra, Alex Nicolau, Mohammad Obaidat, Stephan Olariu, Josep Torrellas, and Hans Zima. They did an excellent job in handling the review of those papers. We wish to thank all authors who submitted papers and over 190 referees who reviewed the papers.

A number of papers were recommended for the best paper awards. The Award Committee Co-Chairs, David Lilja and Per Stenstrom, did a thorough job to select three of them to receive the best paper awards. The three papers will be presented at the last day of the conference as a single Best Paper Session.

We are honored to have three distinguished keynote speakers, one for each day: Greg Pfister of IBM, Iwao Toda of Fujitsu Labs, and Per Stenstrom of Chalmers University of Technology. An exciting panel was organized by Josep Torrellas, University of Illinois. It is now up to you, the authors, panelists, session chairs, keynote speakers, and attendees, to ensure that we have a lively and profitable exchange of ideas.

We thank Mike Liu for inviting us to co-chair this year's technical program. Jose Duato and D.K. Panda, General Co-Chairs, have worked very closely with us to ensure the greater success of the conference. We admire their commitment to the excellence of the conference. A debt of gratitude is owed to numerous conference committee members and supporting staff. Finally, we would like to thank Eduard Ayguade, the Program Committee Webmaster. He spent a great deal of time in modifying and managing the web-based review system, providing all needed data for the Program Committee meeting, and communicating with authors and reviewers. We are very grateful to him.

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Table of Contents

2001 International Conference on Parallel Processing (ICPP 2001)

Message from the General Co-Chairs	xii
Message from the Program Co-Chairs	xiv
Program Committee	xv
Organizing Committee	xvii
Reviewers	xviii

Session 1A: Fundamental Techniques

Parallel Algorithms for Index-Permutation Graphs — An Extension of Cayley Graphs for Multiple Chip-Multiprocessors (MCMP)	3
<i>C.-H. Yeh and B. Parhami</i>	
The Anatomy of Deadlock	13
<i>S. Chrobot</i>	
A Mathematical Game and Its Applications to the Design of Interconnection Networks	21
<i>C.-H. Yeh and E. Varvarigos</i>	

Session 1B: Router Architectures & Algorithms

Performance Issues of Deterministic and Adaptive Ghost-Packet Routers	33
<i>M. Carrión, G. Díaz, and B. Caminero</i>	
Gigabit Ethernet Backbones with Active Loops	41
<i>R. García, M. Malumbres, and J. Pons</i>	
Effective Strategy to Compute Forwarding Tables for InfiniBand Networks	48
<i>J. Sancho, A. Robles, and J. Duato</i>	

Session 1C: Compiler Techniques

Probabilistic Inference Schemes for Sparsity Structures of Fortran 90 Array Intrinsics	61
<i>R.-G. Chang, J.-S. Li, J. Lee, and T.-R. Chuang</i>	

A Low-Cost Approach towards Mixed Task and Data Parallel Scheduling	69
<i>A. Rădulescu and A. van Gemund</i>	

Distributed Sequential Computing Using Mobile Code: Moving Computation to Data	77
<i>L. Pan, L. Bic, and M. Dillencourt</i>	

Session 2A: Web Servers & Proxies

Improving Cache Performance of Network Intensive Workloads	87
<i>U. Vallamsetty, P. Mohapatra, R. Iyer, and K. Kant</i>	

Proxy Prefetch and Prefix Caching	95
<i>W.-K. Liao and C.-T. King</i>	

On the Optimal Selection of Proxy Agents in Mobile Network Backbones	103
<i>A. Kamal and H. El-Rewini</i>	

Session 2B: Scheduling Issues

Dynamic, Reliability-Driven Scheduling of Parallel Real-Time Jobs in Heterogeneous Systems.....	113
<i>X. Qin and H. Jiang</i>	

Informing Algorithms for Efficient Scheduling of Synchronizing Threads on Multiprogrammed SMPs.....	123
<i>C. Antonopoulos, D. Nikolopoulos, and T. Papatheodorou</i>	

Scheduling of Periodic Time Critical Applications for Pipelined Execution on Heterogeneous Systems	131
<i>S. Ranaweera and D. Agrawal</i>	

Session 2C: Network Topology & Broadcast

A New Conference Network for Group Communication	141
<i>Y. Yang</i>	

Energy Efficient Broadcasting for Situation Awareness in Ad Hoc Networks	149
<i>S. Lindsey and C. Raghavendra</i>	

Power Efficient Topologies for Wireless Sensor Networks.....	156
<i>A. Salhie, J. Weinmann, M. Kochhal, and L. Schwiebert</i>	

Session 3A: Performance of Workstation Clusters

Implementing TreadMarks over Virtual Interface Architecture on Myrinet and Gigabit Ethernet: Challenges, Design Experience, and Performance Evaluation	167
<i>M. Banikazemi, J. Liu, D. Panda, and P. Sadayappan</i>	
The Measured Network Traffic of Compiler-Parallelized Programs	175
<i>P. Dinda, B. Garcia, and K.-S. Leung</i>	
New Techniques for Collective Communications in Clusters: A Case Study with MPI	185
<i>A. Calderón, F. García, J. Carretero, J. Fernández, and O. Pérez</i>	

Session 3B: Data Dependence Analysis

Data Dependence Analysis for Complex Loop Regions.....	195
<i>K. Kyriakopoulos and K. Psarris</i>	
Uniformization of Affine Dependence Programs for Parallel Embedded System Design.....	205
<i>M. Manjunathaiah, G. Megson, S. Rajopadhye, and T. Risset</i>	
Hardware Support for Extracting Coarse-Grain Speculative Parallelism in Distributed Shared-Memory Multiprocessors	214
<i>R. Figueiredo and J. Fortes</i>	

Session 3C: Network Protocols

Adaptive Protocols for Single-Hop Photonic Networks with Bursty Traffic	227
<i>G. Papadimitriou, M. Obaidat, and A. Pomportsis</i>	
Analysis of TCP Performance on Ad Hoc Networks Using Preemptive Maintenance Routing	232
<i>T. Goff, N. Abu-Ghazaleh, and D. Phatak</i>	
Uniform Leader Election Protocols for Radio Networks	240
<i>K. Nakano and S. Olariu</i>	

Session 4A: Caching Techniques

Enhancing the Cache Strategy of a Cluster-Based DSM System Using an Adaptive Approach	251
<i>L. Arantes, P. Sens, and B. Folliot</i>	
A Caching Policy for Continuous Media Objects Based on Logical Caches and Object Partitioning	259
<i>Y. Park and K. Chung</i>	
An Optimal Cache Replacement Policy for Wireless Data Dissemination under Cache Consistency	267
<i>J. Xu, Q. Hu, W.-C. Lee, and D. Lee</i>	

Session 4B: Parallel Applications

Parallelization, Optimization, and Performance Analysis of Portfolio Choice Models	277
<i>A. Abdelkhalek, A. Bilas, and A. Michaelides</i>	
Incremental Stack-Splitting Mechanisms for Efficient Parallel Implementation of Search-Based AI Systems	287
<i>K. Villaverde, E. Pontelli, H. Guo, and G. Gupta</i>	
Complex Pipelined Executions in OpenMP Parallel Applications	295
<i>M. Gonzalez, E. Ayguade, X. Martorell, and J. Labarta</i>	

Session 4C: Efficient Communication

NIC-Based Rate Control for Proportional Bandwidth Allocation in Myrinet Clusters	305
<i>A. Gulati, D. Panda, P. Sadayappan, and P. Wyckoff</i>	
Using Tree Topology for Multicast Congestion Control	313
<i>S. Jagannathan and K. Almeroth</i>	
Characterization of Message-Passing Overhead on the AP3000 Multicomputer	321
<i>J. Touriño and R. Doallo</i>	

Session 5A: Wireless Networks

Reduction of Location Update Traffic Using Virtual Layer in PCS	331
<i>D. Chung, H. Choo, and H. Youn</i>	

Virtual Cellular Networks for Non-uniformly Distributed Base Stations.....	339
<i>G. Fan and J. Zhang</i>	

On Calculating Power-Aware Connected Dominating Sets for Efficient Routing in Ad Hoc Wireless Networks	346
<i>J. Wu, M. Gao, and I. Stojmenovic</i>	

Session 5B: Performance of Parallel Languages

Performance Analysis Tools for Parallel Java Applications on Shared-Memory Systems.....	357
<i>J. Guitart, J. Torres, E. Ayguadé, and J. Bull</i>	

UPC Benchmarking Issues.....	365
<i>T. El-Ghazawi and S. Chauvin</i>	

Progressive Shape Analysis for Real C Codes.....	373
<i>F. Corbera, R. Asenjo, and E. Zapata</i>	

Session 5C: Routing in Direct Networks

L-turn Routing: An Adaptive Routing in Irregular Networks	383
<i>M. Koibuchi, A. Funahashi, A. Jouraku, and H. Amano</i>	

Performance Modelling of a True Fully Adaptive Routing Algorithm.....	393
<i>A. Khonsari, H. Sarbazi-Azad, and M. Ould-Khaoua</i>	

Latency of Double-Tree Broadcast in Wormhole-Routed Hypercubes.....	401
<i>A. Shahrabi, M. Ould-Khaoua, and L. Mackenzie</i>	

Session 6: Best Papers Session

Communication State Transfer for the Mobility of Concurrent Heterogeneous Computing	411
<i>K. Chanchio and X.-H. Sun</i>	

Active Caching of On-Line-Analytical-Processing Queries in WWW Proxies.....	419
<i>T. Loukopoulos, P. Kalnis, I. Ahmad, and D. Papadias</i>	