INTERNATIONAL CONFERENCE ON PARALLEL PROCESSING

2007 International Conference on Parallel Processing

■   September 10-14, 2007   ■   Tangchen Hotel Xi'an   ■   XiAn, China

CONFERENCE AT A GLANCE

	MONDAY SEPTEMBER 10 Workshops	TUESDAY SEPTEMBER 11			WEDNESDAY SEPTEMBER 12			THURSDAY SEPTEMBER 13			FRIDAY SEPTEMBER 14 Workshops
7:30	Registration	Registration & Breakfast			Registration & Breakfast			Registration & Breakfast			Registration
8:00		Opening Remarks									
8:30	ADET 2007 IWNC 22007 WSNET 2007 HOT-MP2P	Keynote Address (Speaker: Garth Gibson)			Keynote Address (Speaker: Jose Cruz)			Keynote Address (Speaker: Keshav Pingali)			ADPNA 2007 EDPC 2007 MCSoC 2007 uPADS 2007
9:00											
9:30		Refreshments			Refreshments			Refreshments			
10:00	Refreshments	Session 1A	Session 1B	Session 1C	Session 4A	Session 4B	Session 4C	Session 7A	Session 7B	Session 7C	Refreshments
10:30	ADET 2007 IWNC 22007 WSNET 2007 HOT-MP2P										ADPNA 2007 EDPC 2007 MCSoC 2007 uPADS 2007
11:00											
11:30											
12:00	Lunch 12:00-1:30	Lunch 12:00-1:30			Lunch 12:00-1:30			Lunch 12:00-1:00			Lunch 12:00-1:30
12:30											
1:00								Tour of the Terracotta Warriors and Horses Museum 1:00 – 6:00			
1:30	ADET 2007 WSNET 2007 HOT-MP2P	Session 2A	Session 2B	Session 2C	Session 5A	Session 5B	Session 5C				ADPNA 2007 MCSoC 2007 uPADS 2007
2:00											
2:30											
3:00	Refreshments										Refreshments
3:30	HOT-MP2P	Refreshments			Refreshments						ADPNA 2007
4:00		Session 3A	Session 3B	Session 3C	Session 6A	Session 6B	Session 6C				
4:30											
5:00	Recess										Recess
5:30											
6:00		Recess		Recess			Recess			Recess	
6:30											
7:00-9:00		Reception		Banquet							

36th Annual International Conference on Parallel Processing
PROGRAM

TUESDAY, SEPT. 11

Opening Remarks and Awards
Room: A 8:00 – 8:30

Keynote Address
Room: A 8:30 – 9:30
Chair – Xiaodong Zhang

Garth Gibson, *Reflections on Failure in Post-Terascale Parallel Computing*

9:30 – 10:00 Break

Session 1A: Multi-Core Systems
Room: A 10:00-12:00
Chair – Jason Ding
- Parallelization and Performance Analysis of Video Feature Extractions on Multi-Core Based Systems Qi Zhang, Yurong Chen, Jianguo Li, Yimin Zhang, Yinlong Xu
- Towards Optimized Packet Classification Algorithms for Multi-Core Network Processors, Yaxuan Qi, Bo Xu, Fei He, Xin Zhou, Jianming Yu, Jun Li
- Loop-level Speculative Parallelism in Embedded Applications, Mafijul Md. Islam, Alexander Busck, Mikael Engbom, Simji Lee, Michel Dubois, Per Stenström
- Integrating Memory Compression and Decompression with Coherence Protocols in Distributed Shared Memory Multiprocessors, Lakshmana Rao Vittanala, Mainak Chaudhuri

Session 1B: Searching in P2P Systems
Room: *B* 10:00-12:00
Chair – Li Xiao
- Improving Search Using a Fault-Tolerant Overlay in Unstructured P2P Systems, William Acosta, Surendar Chandra
- Difficulty-aware Hybrid Search in Peer-to-Peer Networks, Hanhua Chen, Hai Jin, Yunhao Liu, Lionel Ni
- Collaborative Search in Large-scale Unstructured Peer-to-Peer Networks, Yiming Zhang, Dongsheng Li, Lei Chen, Xicheng Lu
- ASAP: An Advertisement-based Search Algorithm for Unstructured Peer-to-peer Systems, Peng Gu, Jun Wang, Hailong Cai

Session 1C: OS & Resource Management
Room: D 10:00-12:00
Chair – Pavan Balaji
- Mercury: Combining Performance with Dependability Using Self virtualization, Haibo Chen, Rong Chen, Fengzhe Zhang, Binyu Zang, Pen-Chung Yew
- FlexFetch: A History-Aware Scheme for I/O Energy Saving in Mobile Computing, Feng Chen, Song Jiang, Weisong Shi and Weikuan Yu
- Methods of Memory Optimizations in Streaming Applications, Nissim Harel, Hasnain A. Mandviwala, Kath Knobe, Umakishore Ramachandran
- Multi-layer Event Trace Analysis for Parallel I/O Performance Tuning, Pin Lu and Kai Shen

12:00-1:30 Lunch Break

Session 2A: Algorithms & Applications
Room: C 1:30-3:30
Chair – Lei Pan
- Column-Based Partitioning for Data in High Dimensional Space, Ekasit Kijsipongse, Sudsanguan Ngamsuriyaroj
- Efficient Parallel Algorithm for Optimal Three-Sequences Alignment, Chun Yuan Lin, Chen Tai Huang, Yeh-Ching Chung, Chuan Yi Tang
- Parallel Algorithms for Bayesian Indoor Positioning Systems, Konstantinos Kleisouris and Richard Martin
- A Fast Multi-pattern Matching Algorithm for Deep Packet Inspection on a Network Processor, Jia Ni, Chuang Lin, Zhen Chen, Peter Ungsunan

Session 2B: Cluster Computing
Room: B 1:30-3:30
Chair – Zhiling Lan
- Collaborative Memory Pool in Cluster System, Nan Wang, Xuhui Liu, Jin He, Jizhong Han, Lisheng Zhang, Zhiyong Xu
- CPU MISER: A Performance-Directed, Run-Time System for Power-Aware Clusters, Rong Ge, Xizhou Feng, Wu-chun Feng and Kirk Cameron

- Energy-Efficient Scheduling for Parallel Applications Running on Heterogeneous Clusters, Ziliang Zong, Xiao Qin, Xiaojun Ruan, Kiranmai Bellam, Mais Nijim, Mohamed Alghamdi
- Real-Time Divisible Load Scheduling with Different Processor Available Times, Xuan Lin, Ying Lu, Jitender Deogun, Steve Goddard

Session 2C: Load Balance
Room: D 1:30-3:30
Chair – Jun Wang
- Hardware-Based Multicast with Global Load Balance on k-ary n-trees, Quanbao Sun, Minxuan Zhang, Liquan Xiao
- Fair Load-Balancing on Parallel Systems for QoS, Luis Fernando Orleans, Pedro Nuno San-Bento Furtado
- Scheduling Divisible Loads on Bus Networks with Start-Up Costs by Utilizing Multiple Data Transfer Streams: PORI, Jie Hu and Raymond Klefstad
- Adaptive Load-Balancing for Force-Decomposition Based 3-Body Molecular Dynamics Simulations in A Heterogeneous Distributed Environment with Variable Number of Processors, Sumanth J.V, David Swanson, Hong Jiang

3:30-4:00 Break

Session 3A: Optimization for Parallelism
Room: C 4:00 – 5:30
Chair – Binyu Zang
- COBRA: An Adaptive Runtime Binary Optimization Framework for Multithreaded Applications, Jinpyo Kim, Wei-Chung Hsu, Pen-Chung Yew
- Automatic Trace-Based Parallelization of Java Programs, Borys J. Bradel, Tarek S. Abdelrahman
- Toward Automatic Data Distribution for Migrating Computations, Lei Pan, Jingling Xue, Ming Kin Lai, Michael Dillencourt, Lubomir Bic

Session 3B: Reliable P2P Systems
Room: B 4:00 – 5:30
Chair – Hung-Chang Hsiao
- Defending P2Ps from Overlay Flooding-based DDoS, Yunhao Liu, Xiaomei Liu, Chen Wang, and Li Xiao
- Achieving Reliability through Replication in a Wide-Area Network DHT Storage System, Jing Zhao, Hongliang Yu, Kun Zhang, Weimin Zheng, Jie Wu, Jinfeng Hu
- Towards Location-aware Topology in both Unstructured and Structured P2P Systems, Tongqing Qiu, Guihai Chen, Mao Ye, Edward Chan, Ben Y. Zhao

Session 3C: Parallel Data Access
Room: D 4:00 – 5:30
Chair – Kirk Cameron
- Design, Implementation and Evaluation of Trellis-SDP for File-Level Data Parallelism, Meng Ding, Paul Lu, Juefu Wang and Mauricio D. Sacchi
- SOR: A Static File Assignment Strategy Immune to Workload Characteristic Assumptions in Parallel I/O Systems, Tao Xie
- Scaling up Genome Similarity Search Services through Content Distribution, Chen Wang, Bing Bing Zhou, Albert Y. Zomaya

ICPP '07 Reception
Location: TBD
7:00 – 9:00pm

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WEDNESDAY, SEPT. 12

Keynote Address
Room: A 8:30 – 9:30
Chair – Ten H. Lai

Jose Cruz, *Computational Challenges in Multiple Adversarial Multi-Agent Teams*

9:30 – 10:00 Break

Session 4A: Application Systems
Room: A 10:00-12:00
Chair – Jiandong Li
- ANTS: Efficient Vehicle Locating Based on Ant Search in ShanghaiGrid, Hongzi Zhu, Yanmin Zhu, Minglu Li, Lionel M. Ni
- Architectural Challenges in Memory-Intensive, Real-Time Image Forming, Anders Ahlander, Hans Hellsten, Kurt Lind, Jonas Lindgren, Bertil Svensson

- Image Reconstruction using Microwave Tomography for Breast Cancer Detection on Distributed Memory Machine, Meilian Xu, Abas Sabouni, Parimala Thulasiraman, Sima Noghanian, Stephen Pistorius
- Tempest: A portable tool to identify hot spots in parallel code, Kirk W. Cameron, Hari K. Pyla, Srinidhi Varadarajan

Session 4B: Reliability and Fault Tolerance
Room: B 10:00-12:00
Chair – Min-Te Sun
- Reliability and Scheduling on Systems Subject to Failures, Mourad Hakem and Franck Butelle
- Fault-Driven Re-Scheduling For Improving System-level Fault Resilience, Yawei Li, Prashasta Gujrati, Zhiling Lan, Xian-he Sun
- A Meta-Learning Failure Predictor for Blue Gene/L Systems, Prashasta Gujrati, Yawei Li, Zhiling Lan, Rajeev Thakur and John White
- Deadlock-Free Adaptive Routing in Meshes Based on Cost-effective Deadlock Avoidance schemes, Dong Xiang, Yueli Zhang, Yi Pan and Jie Wu

Session 4C: Job Scheduling
Room: D 10:30-12:00
Chair – Hong Jiang
- Analyzing and Minimizing the Impact of Opportunity Cost in QoS-aware Job Scheduling, M. Islam, P. Balaji, G. Sabin, P. Sadayappan
- Adaptive Scheduling of Parallel Jobs on Functionally Heterogeneous Resources, Yuxiong He, Hongyang Sun, Wen-Jing Hsu
- ReSHAPE: A Framework for Dynamic Resizing and Scheduling of Homogeneous Applications in a Parallel Environment, Rajesh Sudarsan and Calvin J. Ribbens
- Improving Static Task Scheduling in Heterogeneous and Homogeneous Computing Systems, Chih-Hsueh Yang, PeiZong Lee, Yeh-Ching Chung

12:00-1:30 Lunch Break

Session 5A: Distributed I/O
Room: C 1:30 – 3:30
Chair – Song Jiang
- High Performance MPI over iWARP: Early Experiences, Sundeep Narravula, Amith Mamidala, Abhinav Vishnu, Gopalakrishnan Santhanaraman and Dhabaleswar K. Panda

- Group-based Coordinated Checkpointing for MPI: A Case Study on InfiniBand, Qi Gao, Wei Huang, Matthew J. Koop, Dhabaleswar K. Panda
- RDMA-based and SMP-aware Multi-port All-Gather on Multi-rail QsNetII SMP Clusters, Ying Qian, Ahmad Afsahi
- Designing NFS With RDMA for Security, Performance and Scalability, Ranjit Noronha, Lei Chai, Thomas Talpey and Dhabaleswar K. Panda

Session 5B: Measuring and Modeling
Room: B 1:30 – 3:30
Chair – Yurong Chen
- Performance Predictions for General-Purpose Computation on GPUs, Weiguo Liu, Bertil Schmidt, Wolfgang Mueller-Wittig
- L2 Cache Modeling for Scientific Applications on Chip Multi-Processors, Fengguang Song, Shirley Moore, Jack Dongarra
- Dual Processor Performance Characterization for XML Application-Oriented Networking, Jianxun Jason Ding, Abdul Waheed
- Evaluation of Transcendental Functions on Imagine Architecture, Xiaobo Yan, Tao Tang, Yu Deng, Jing Du, Xuejun Yang

Session 5C: Wireless and Sensor Networks
Room: D 1:30 – 3:30
Chair – Makoto Takizawa
- MHH: A Novel Protocol for Mobility Management in Publish/Subscribe Systems, Jinling Wang, Jiannong Cao, Jing Li, Jie Wu
- On Broadcasting in Wireless Sensor Networks with Irregular and Dynamic Radio Coverage, Li-Chun Hsu, Chung-Ta King, Amit Banerjee
- VIRE: Active RFID-based Localization Using Virtual Reference Elimination, Yiyang Zhao, Yunhao Liu, Lionel M. Ni
- Cache Invalidation Strategies for Mobile Ad Hoc Networks, Wenzhong Li, Edward Chan, Yilin Wang and Daoxu Chen

3:30 – 4:00 Break

Session 6A: Compiler and Languages
Room: C 4:00 – 5:30pm
Chair – Lenard Barolli
- Code Compilation for an Explicitly Parallel Register-Sharing Architecture,

Alex Gonmakher, Assaf Schuster, Avi Mendelson, Gregory Shklover
- An Effective Strategy for Porting C++ Applications on Cell, Ana Lucia Varbanescu, Henk Sips, Kenneth A. Ross, Qiang Liu, Lurng-Kuo Liu, Apostol (Paul) Natsev, John R. Smith
- A Component-based Coordination Language for Efficient Reconfigurable Streaming Applications, Maik Nijhuis, Herbert Bos, Henri Bal

Session 6B: Peer-to-Peer Systems
Room: B 4:00 – 5:30pm
Chair – Jiannong Cao
- A Large-scale and Decentralized Infrastructure for Content-based Publish/Subscribe Services, Xiaoyu Yang, Yingwu Zhu, Yiming Hu
- Attribute-based Overlay Network for Non-DHT Structured Peer-to-peer Lookup, Ming-Tsung Sun, Chung-Ta King, Wen-Hung Sun and Chiu-Ping Chang
- Incentive-Driven P2P Anonymity System: A Game-Theoretic Approach, Souvik Ray, Giora Slutzki, Zhao Zhang

Session 6C: Grid Computing
Room: D 4:00 – 5:30pm
Chair – Mainak Chaudhuri
- Dependency-aware Maintenance for Dynamic Grid Services, Hai Jin, Li Qi, Song Wu, Yaqin Luo, Jie Dai
- A Composition Approach to Mutual Exclusion Algorithms for Grid Applications, Julien Sopena, Fabrice Legond-Aubry, Luciana Arantes, Pierre Sens
- Two-Phase Computation and Data Scheduling Algorithms for Workflows in the Grid, Fangpeng Dong, Selim G. Akl

ICPP '07 Banquet
Room: TBD
7:00 – 9:00pm

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THURSDAY, SEPT. 13

Keynote Address
Room: A 8:30 – 9:30
Chair – Xiaodong Zhang

Keshav Pingali, *Exploiting Data Parallelism in Irregular Programs*

9:30 – 10:00 Break

Session 7A: Wireless Networks
Room: A 10:00 – 12:00
Chair – Guihai Chen
- EEGR: Energy-Efficient Geographic Routing in Wireless Sensor Networks, Haibo Zhang, Hong Shen
- Three Dimensional Broadcast Protocol for Wireless Networks, Vamsi Paruchuri, Arjan Durresi, Leonard Barolli, Makoto Takizawa
- Processing the v-KNN Queries in Wireless Sensor Networks, Yongxuan Lai, Hong Chen and Cuiping li
- On Providing Guaranteed Detectability for Surveillance Applications, Yanmin Zhu, Quanbin Chen, Lionel M. Ni

Session 7B: Resource Allocation and Management
Room: B 10:00 – 12:00
Chair – Olav Lysne
- Wavelength Assignment for Directional Hypercube Communications on a Class of WDM Optical Networks, Yawen Chen, Hong Shen
- Multiuser Power and Channel Allocation Algorithm in Cognitive Radio, Jiandong Li, Dong Chen, Weiying Li, Jing Ma
- Advanced Flow-control Mechanisms for the Sockets Direct Protocol over InfiniBand, Pavan Balaji, Sitha Bhagvat, Dhabaleswar Panda, Rajeev Thakur and William Gropp
- RECN-IQ: A Cost-Effective Input-Queued Switch Architecture with Congestion Management, Gaspar Mora, Pedro J. Garcia, Jose Flich, Jose Duato

Session 7C: Network on Chips
Room: D 10:00 – 12:00
Chair – Chung-Ta King
- Tightly-Coupled Multi-Layer Topologies for 3-D NoCs, Hiroki Matsutani, Michihiro Koibuchi, Hideharu Amano
- Communication Modeling of the Spidergon NoC with Virtual Channels, Mahmoud Moadeli, Aali Shahrabi, Wim Vanderbauwhede, Mohamed Ould-Khaoua
- Performance Improvement Methodology for ClearSpeed's CSX600, Yuri Nishikawa, Michihiro Koibuchi, Masato Yoshimi, Kenichi Miura, Hideharu Amano

Tour to the Terracotta Warriors and Horses Museum
1:00 – 6:00pm