

## **HPDC 2002 Preliminary Program**

*Wednesday*

**Weds 15:00 HPDC Welcome**

**Malcolm Atkinson, HPDC General Chair**

**Dennis Gannon, HPDC Program Chair**

**Weds 15:15-16:15 Keynote Presentation**

**Chair: Malcolm Atkinson**

**IBM's Irving Waldasky-Berger**

**Weds 16:30 - 17:40 Session 1. Data Servers and Grid Storage I**

**Chair: Beth Plale, Indiana University, USA**

*Flexibility, Manageability and Performance in a Grid Storage Appliance*

John Bent, Venkateshwaran Venkataramani, Alain Roy, Joseph Stanley, Andrea Arpaci-Dusseau, Remzi Arpaci-Dusseau, University of Wisconsin, Madison

*Distributed Computing with Load-Managed Active Storage*

Rajiv Wickremesinghe, Jeff Chase, Jeffrey Vitter, Duke University

*A Decentralized, Adaptive Replica Location Mechanism*

Matei Ripeanu, Ian Foster, The University of Chicago

**Weds 16:30 - 17:40 Session 2. Adapting To Grid Behavior**

**Chair: Jennifer M. Schopf, Argonne National Laboratory, USA**

*Adaptive Timeout Discovery using the Network Weather Service*

Matthew Allen, Rich Wolski, University of California, Santa Barbara James Plank, University of Tennessee, Knoxville

*Dynamic Right-Sizing in FTP (drsFTP): An Automated Technique for Enhancing Grid Performance*

Mark Gardner, Los Alamos National Laboratory Wu-chun Feng, Los Alamos National Laboratory and Ohio State University Mike Fisk, Los Alamos National Laboratory

*QoS-Based Resource Discovery in Intermittently Available Environments*

Yun Huang, Nalini Venkatasubramanian, University of California, Irvine

**Weds 17:40 - 18:00 Break**

**Weds 18:00 - 19:10 Session 3. Grid Resource Management**

**Chair: Reagan Moore, San Diego Supercomputing Center, USA**

*Design and Evaluation of a Resource Selection Framework for Grid Applications*

Chuang Liu, Lingyun Yang, University of Chicago

Ian Foster, University of Chicago and Argonne National Laboratory

Dave Angulo, University of Chicago

*A Scalable QoS-Aware Service Aggregation Model for Peer-to-Peer Computing Grids*  
Xiaohui Gu, Klara Nahrstedt, Department of Computer Science, University of Illinois

*An Enterprise-Based Grid Resource Management System*  
Quinn Snell, Kevin Tew, Joseph Ekstrom, Mark Clement, Brigham Young University

**Weds 18:00 - 19:10 Session 4 Application Frameworks I**  
**Chair: Satoshi Matsuoka, Tokyo Institute of Technology, JAPAN**

*Interactive and Descriptor-based Deployment of Object-Oriented Grid Applications*  
Francoise Baude, Denis Caromel, Fabrice Huet, Lionel Mestre, Julien Vayssiere, INRIA-I3S-UNSA

*Partitionable Services: A Framework for Seamlessly Adapting Distributed Applications to Heterogeneous Environments*  
Anca Ivan, Josh Harman, Michael Allen, Vijay Karamcheti, New York University

*Lightweight Self-organizing Frameworks for Metacomputing*  
Vaidy Sunderam, Dawid Kurzyniec, Emory University

**19:30 Joint HPDC11 & GGF5 Reception, Dinner and Ceilidh**

**Thursday**

**Thurs 08:30 - 10:00 Session 5. Parallel Application Analysis and Optimization Chair: Isaac Lopez, NASA Glenn Research Center, USA**

*Using Kernel Coupling to Predict Parallel Application Performance*  
Valerie Taylor, Xingfu Wu, Jonathan Geisler, Northwestern University  
Rick Stevens, Argonne National Laboratory

*Using Semantic Information to Guide Efficient Parallel I/O on Clusters*  
Martin Schulz, Technische Universitaet Muenchen, LRR

*Multigrain parallelism for eigenvalue computations on networks of clusters* James McCombs, Andreas Stathopoulos, College of William and Mary

*Backtracking and Re-execution in the Automatic Debugging of Parallelized Programs*  
Gregory Matthews, Robert Hood, CSC-NASA Ames Research Center  
Stephen Johnson, Peter Leggett, University of Greenwich

**Thurs 08:30 - 10:00 Session 6. Optimizing Grid Performance**  
**Chair: Marty Humphrey, University of Virginia, USA**

*Dynamic Monitoring of High-Performance Distributed Applications*  
Dan Gunter, Brian Tierney, Brian Crowley, Keith Jackson, Jason Lee, Martin Stoufer, LBNL

*Leveraging Run Time Knowledge about Event Rates to Improve Memory Utilization in Wide Area Data*

*Stream Filtering*

Beth Plale, Indiana University

*Realtime Performance Visualization of Distributed Systems*

Joseph Insley, Michael Papka, William Allcock, Joseph Bester,  
John Bresnahan, Ian Foster, Mathematics and Computer Science Division, Argonne National Laboratory

*Predicting Sporadic Grid Data Transfers*

Sudharshan Vazhkudai, Jennifer Schopf, Argonne National Laboratory

**Thurs 10:00 - 10:30 break**

**Thurs 10:30 - 11:30**

**Session Chair: Dennis Gannon, Indiana University**

**Keynote Lecture:**

*Herding Cats, Mice and Elephants - Network resource implications for the Grid* Jon Crowcroft,  
Marconi Professor of Networked Systems, Cambridge University

**Thurs 11:30 - 12:15 Invited Talk:**

*Configuration, Monitoring and Management of Huge-scale Applications with a Varying Number of Application Components*

Joe Sventek, Agilent Technologies UK Ltd

**Thurs 12:15 - 13:30 lunch**

**Thurs 13:30 - 15:00 Session 7. Grid Practice and Experience**

**Chair: William Feiereisen, Los Alamos National Laboratory, USA**

*Error Scope on a Computational Grid: Theory and Practice*

Douglas Thain, Miron Livny, University of Wisconsin

*Design and Implementation of Secured Information Services For the ASCI Grid* Wilbur Johnson, Sandia National Laboratories

*Architecture Requirements for Commercializing Grid Resources*

Chris Kenyon, Giorgos Cheliotis, IBM Research, Zurich Research Lab

*GriPhyN and LIGO, Building a Virtual Data Grid for Gravitational Wave Scientists.*

Ewa Deelman, USC/ISI

Kent Blackburn, Caltech

Phil Ehrens, Caltech

Carl Kesselman, USC/ISI

Scott Koranda, UWM

Albert Lazzarini, Caltech

**Thurs 13:30 - 15:00 Session 8. Communication and RPC Protocols.**

**Chair: Denis Caromel, Univ. de Nice Sophia Antipolis and INRIA, France**

*Evaluating Web Services Based Implementations of GridRPC*

Satoshi Shirasuna, Tokyo Institute of Technology

Hidemoto Nakada, Tokyo Institute of Technology, National Institute of Advanced Industrial Science and Technology

Satoshi Matsuoka, Tokyo Institute of Technology, National Institute of Informatics

Satoshi Sekiguchi, National Institute of Advanced Industrial Science and Technology

*Investigating the Limits of SOAP Performance for Scientific Computing* Kenneth Chiu, Madhusudhan Govindaraju, Randall Bramley, Indiana University

*An Evaluation of Object-based Data Transfers Over High Performance Networks*

Phillip Dickens, Illinois Institute of Technology

William Gropp, Mathematics and Computer Science Division, Argonne National Laboratory

*A Comparison of TCP Automatic Tuning Techniques for Distributed Computing* Eric Weigle, Wu-chun Feng, Los Alamos National Laboratory

**Thurs 15:00 - 15:30 break**

**Thurs 15:30 - 16:40 Session 9 Application Frameworks II**

**Chair: Jim Pool, California Institute of Technology**

*On the Viability of Component Frameworks for High Performance Distributed Computing: A Case Study*

Dawid Kurzyniec, Vaidy Sunderam, Emory University

*Distributed Model Coupling Framework*

Matthew Bettencourt, Center of Higher Learning

*Coven - a Framework for High Performance Problem Solving Environments* Nathan DeBardeleben, Walter Ligon, Sourabh Pandit, Dan Stanzione, Clemson University

**Thurs 15:30 - 16:40 Session 10. Data Servers and Grid Storage II**

**Chair: Satoshi Sekiguchi, National Institute of Advanced Industrial Science and Technology, JAPAN**

*MySRB and SRB - Components of a Data Grid*

Arcot Rajasekar, Michael Wan, Reagan Moore, SDSC, University of California at San Diego

*A High Performance Storage Server*

Keith Bell, Andrew Chien, University of California San Diego

Mario Lauria, The Ohio State University

*A Secure Distributed Search System*

Yinglian Xie, David O'Hallaron, Michael Reiter, Carnegie Mellon University

**Thurs 16:40 - 18:00 posters and demonstrations**

*Friday*

**Friday 08:30 - 9:15 Invited Talk**

**Chair: Malcolm Atkinson**

**Tom Rodden**

**Friday 09:15 - 10:00 Invited Talk**

**Gregory D. Abowd, Georgia Institute of Technology, USA**

Computing in Living Laboratories: A Grand Challenge

**Friday 10:00 - 10:30 break**

**Friday 10:30 - 12:00 Session 11 Grid Job Submission and Scheduling**

**Chair: Jennifer M. Schopf, Argonne National Laboratory, USA**

*InfoGram: A Grid service performing Information Queries and Job Submission* Gregor von Laszewski,  
Jarek Gawor, Argonne National Laboratory  
Andreas Schreiber, German Aerospace

*A Metascheduler For The Grid*

Sathish Vadhiyar, Jack Dongarra, Computer Science Department, University of Tennessee

*Decoupling Computation and Data Scheduling in Distributed Data-Intensive Applications*

Kavitha Ranganathan, Ian Foster, University of Chicago

*Distributed Job Scheduling on Computational Grids using Multiple Simultaneous Requests*

Vijay Subramani, Rajkumar Kettimuthu, Srividya Srinivasan,

Sadayappan P, The Ohio State University

**Friday 10:30 - 12:00 Session 12. Adaptive Applications and Middleware**

**Chair: Piyush Mehrotra, NASA Ames Research Center, USA**

*IQ-RUDP: Coordinating Application Adaptation with Network Transport*

Qi He, Karsten Schwan, Georgia Institute of Technology

*Adaptive Online Data Compression*

Emmanuel Jeannot, LORIA, Université Henri Poincaré

*Software Architecture-Based Adaptation for Grid Computing*

Shang-Wen Cheng, David Garlan, Bradley Schmerl, Joao Sousa, Bridget Spitznagel,

Peter Steenkiste, Carnegie Mellon University

*Micro Benchmarking, Performance Assertions And Sensitivity Analysis:*

*A Technique For Developing Adaptive Grid Applications*

Ivan Corey, John Johnson, Jeffrey Vetter, Lawrence Livermore National Laboratory