ICAC 2004 PROGRAM SUMMARY

Sunday, May 16, 2004

1300-1700: Tutorial 1: Autonomic Grid Computing (Abstract)
1300-1700: Tutorial 2: ~~Research Challenges of Autonomic Computing: An Industry Perspective~~ (Abstract) CANCELLED

Monday, May 17, 2004

0730-1700: Registration
0800-0830: Coffee
0830-0845: Opening and Introductory Remarks
0845-0930: Keynote presentation (Armando Fox; *Session Chair: Jeff Kephart*)
0930-1045: Session 1 (3 presentations) *(Session Chair: Manish Parashar)*
1045-1115: Break
1115-1230: Session 2 (3 presentations) (*Session Chair: Fabrice Saffre)*
1230-1345: Lunch break
1345-1500: Session 3 (3 presentations) *(Session Chair: Yi-Min Wang)*
1500-1530: Break
1530-1645: Session 4 (3 presentations) *(Session Chair: Daniel Menasce)*
1700-2000: Poster session and reception

Tuesday, May 18, 2004

0730-1200: Registration
0800-0830: Coffee
0830-0915: Keynote presentation (Nicholas Jennings; *Session Chair: Rajarshi Das)*
0915-1030: Session 5 (3 presentations) *(Session Chair: Anand Tripathi)*
1030-1100: Break
1100-1230: Session 6A (4 presentations) *(Session Chair: Salim Hariri)*
1100-1230: Session 6B (4 presentations) *(Session Chair: Philip McKinley)*
1230-1345: Lunch break
1345-1515: Session 7A (4 presentations) *(Session Chair: Jiro Ohuchi)*
1345-1515: Session 7B (4 presentations) *(Session Chair: Karsten Schwan)*
1515-1545: Break
1545-1730: Panel Discussion *(Panel Moderator: Ken Birman)*
1730-1800: Closing remarks

ICAC 2004 PROGRAM: Sunday, May 16 2004

1300-1700: Tutorial 1: Autonomic Grid Computing (Abstract)
Prof. Manish Parashar *(Rutgers University, USA)*
Prof. Salim Hariri *(University of Arizona, USA)*

1300-1700: Tutorial 2: ~~Research Challenges of Autonomic Computing: An Industry Perspective~~ (Abstract) CANCELLED
Chaired by ***Dr. Jeffrey Kephart*** *(IBM Research, USA)*

ICAC 2004 PROGRAM: Monday, May 17 2004

0830-0845 **Opening and Introductory Remarks**

845-930 **Keynote Presentation I:** *(Session Chair: Jeff Kephart)*
Why Recovery Should Be Free, and Often Can Be **(Abstract)**
Prof Armando Fox, Stanford University

0930-1045 **Session 1: General Architecture and Environment for Autonomic Computing Systems I** *(Session Chair: Manish Parashar)*

- An Architectural Approach to Autonomic Computing
  Steve White, James Hanson, Ian Whalley, David Chess, and Jeff Kephart
- A Component-based Programming Model for Autonomic Applications
  Hua Liu and Manish Parashar
- Usable Autonomic Computing Systems: the Administrator's Perspective
  Rob Barrett, Paul Maglio, Eser Kandogan, and John Bailey

1045-1115 **Break**

1115-1230 **Session 2: AI and Learning for Autonomic Computing Systems** *(Session Chair: Fabrice Saffre)*

- Discovering Correctness Constraints for Self-Management of System Configurations
  Emre Kiciman and Yi-Min Wang
- A Statistical Learning Approach to Failure Diagnosis
  Mike Chen, Alice Zheng, Jim Lloyd, Michael Jordan, and Eric Brewer
- File classification in self-* storage systems
  Michael Mesnier, Eno Thereska, Gregory Ganger, Daniel Ellard, and Margo Seltzer

1230-1345 **Lunch Break**

1345-1500 **Session 3: Performance Management in Autonomic Computing Systems I** *(Session Chair: Yi-Min Wang)*

- Self-Optimization in Computer Systems via On-Line Control: Application to Power Management
  Nagarajan Kandasamy, Sherif Abdelwahed, and John Hayes
- Assessing the Robustness of Self-managing Computer Systems under Highly Variable Workloads
  Mohamed Bennani and Daniel Menasce
- Utility Functions in Autonomic Systems
  William Walsh, Gerald Tesauro, Jeffrey Kephart and Rajarshi Das

1500-1530 Break

1530-1645 Session 4: Autonomic Computing in Massively Distributed Systems I *(Session Chair: Daniel Menasce)*

- Autonomic Pervasive Computing based on Planning
  Anand Ranganathan and Roy Campbell
- Transparent Self-Optimization in Existing CORBA Applications
  S. Masoud Sadjadi and Philip McKinley
- The Organic Grid: Self-Organizing Computation on a Peer-to-Peer Network
  Arjav Chakravarti, Gerald Baumgartner, and Mario Lauria

1700-2000 Poster Session and Reception

ICAC 2004 PROGRAM: Tuesday, May 18 2004

0830-0915 **Keynote presentation II:** *(Session Chair: Rajarshi Das)*
Multi-agent Systems and Autonomic Computing (Abstract)
Prof Nick Jennings, Southampton University

0915-1030 **Session 5: System-level Technologies for Autonomic Computing** *(Session Chair: Anand Tripathi)*

- Towards a Self-Managing Software Patching Process Using Black-Box Persistent-State Manifests
  John Dunagan, Roussi Roussev, Brad Daniels, Aaron Johnson, Chad Verbowski, and Yi-Min Wang
- Support for Disconnected Operation via Architectural Self-Reconfiguration
  Marija Mikic-Rakic and Nenad Medvidovic
- RepStore: A Self-Managing and Self-Tuning Storage Backend with Smart Bricks
  Zheng Zhang, Shiding Lin, Qiao Lian, and Chao Jin

1030-1100 **Break**

1100-1230 **Session 6A: General Architecture and Environment for Autonomic Computing Systems II** *(Session Chair: Salim Hariri)*

- Emergence: a Paradigm for Robust and Scalable Distributed Applications
  Richard Anthony
- Unity: Experiences with a Prototype Autonomic Computing System
  David Chess, Alla Segal, Ian Whalley and Steve White
- On Identifying Stable Ways to Configure Systems
  Gagan Aggarwal, Mayur Datar, Nina Mishra, and Rajeev Motwani,
- Bringing Planning to Autonomic Applications with ABLE
  Biplav Srivastava, Joseph Bigus, and Donald Schlosnagle

1100-1230 **Session 6B: Storage and Database Systems** *(Session Chair: Phil McKinley)*

- SANBoost: Automated SAN-Level Caching in Storage Area Network
  Ismail Ari, Melanie Gottwals, and Dick Henze
- Using the Distiller to direct the development of self-configuration software
  Zachary Kurmas and Kimberly Keeton
- Recommending Materialized Views and Indexes with IBM's DB2 Design Advisor

Daniel Zilio, Calisto Zuzarte, Sam Lightstone, Wenbin Ma, Guy Lohman, Robert Cochrane, Hamid Pirahesh, Latha Colby, Jarek Gryz, Eric Alton, Dongming Liang, and Gary Valentin

- An Agent Based Autonomic Semantic Platform
  Dario Bonino, Alessio Bosca, and Fulvio Corno

1230-1345 Lunch Break

1345-1515 Session 7A: Performance Management in Autonomic Computing Systems II
(Session Chair: Jiro Ohuchi)

- OnCall: Defeating Spikes with a Free-Market Application Cluster
  James Norris, Keith Coleman, Armando Fox, and George Candea
- Autonomic Self-Optimization According to business objectives
  Sarel Aiber, Dagan Gilat, Ariel Landau, Natalia Razinkov, Aviad Sela, and Segev Wasserkrug
- Automatic Performance Management in Component Based Software Systems
  Ada Diaconescu, Adrian Mos, and John Murphy
- Dynamic Resource Allocation of Shared Data Centers Supporting Multiclass Requests
  Sai Rajesh Mahabhashyam and Natarajan Gautam

1345-1515 Session 7B: Autonomic Computing in Massively Distributed Systems II
(Session Chair: Karsten Schwan)

- Autonomous Smart Routing for Network QoS
  Erol Gelenbe, Michael Gellman, Ricardo Lent, Peixiang Liu, and Pu Su
- Mobilized ad-hoc networks: A reinforcement learning approach
  Yu-Han Chang, Tracey Ho, and Leslie Kaelbling
- Managing User-centric Adaptive Services for Pervasive Computing
  David Lewis, Tony O'Donnell, Kevin Feeney, Aoife Brady, and Vincent Wade
- Remote Repair of Operating System State Using Backdoors
  Aniruddha Bohra, Iulian Neamtiu, Pascal Gallard, Florin Sultan, and Liviu Iftode

1515-1545 Break

1545-1730 Panel Discussions (TBA)

Self-Managing Systems: Views and Visions (Abstract)

Moderator:
Ken Birman, Professor, Cornell University
Panelists:
Donald Young, Architect, Adaptive Enterprise, HP
Jeffrey Frey, Architect, On Demand Infrastructure, IBM
Anders Vinberg, Senior Architect, Microsoft:
Jacob Gabrielson, Principal Software Development Engineer, Amazon

Karsten Schwan, Professor, Georgia Institute of Technology

1730-1800 Closing remarks