



**IEEE International Symposium on  
Performance Analysis of Systems  
and Software**  
**November 4-6, 2001**  
**Tucson, Arizona**  
**Advance Program**

**Sunday, November 4:**

10:00 AM-11:30 AM: **Tutorial I**

Tutorial Session Chair: Kathy Kackson, IBM

Power-Efficient Architectures: Trends, Metrics and  
Modeling Challenges

David Brooks, Viji Srinivasan, Pradip Bose, Philip  
Emma (*IBM T. J. Watson Research Center*),  
presented by Pradip Bose

11:30-2:00 PM: **Lunch Break**

Lunch sponsored by virtutech

2:00 PM-5:30 PM: **Tutorial II**

Tutorial Session Chair: Kathy Kackson, IBM

Simics-a fast, multi-target, portable, full system  
simulator

Peter Magnusson (*virtutech*)

**Monday, November 5:**

7:30 AM-9:00 AM: **Registration**

9:00 AM-9:15 AM: **Welcome and Introduction of  
Keynote Speaker**

9:15 AM-10:15 AM: **Keynote Address**

EV8: Design, Modeling and Little's Law  
Dr. Joel Emer (*Intel Corp.*)

10:15 AM-10:40 AM: **Coffee Break**

10:40 AM-12:00 PM: **Session 1: Processor-  
Level Modeling and Analysis**

Session Chair: Craig Chase, U of Texas at Austin

MASE: a novel infrastructure for detailed  
microarchitectural modeling

Eric Larson, Saugata Chatterjee, Todd Austin  
(*University of Michigan*)

Early design stage power-performance modeling  
through statistical simulation

Lieven Eeckhout, Koen De Bosschere (*Ghent  
University, Belgium*)

Performance analysis using pipeline visualization

Chris Weaver, Kenneth C. Barr, Eric D. Marsman,  
Dan Ernst, Todd Austin (*University of Michigan*)

12:00 PM-2:00 PM: **Lunch Break**

Lunch sponsored by ISPASS

12:00 PM-12:30 PM: **Invited Luncheon Speaker**

Valerie Taylor (*Northwestern University*)

Prophesy: Automating the Modeling Process

Valerie Taylor, Xingfu Wu, Jonathan Geisler, Xin  
Li, Zhiling Lan, Mark Hereld, Ivan Judson, Rick  
Stevens (*Northwestern University*)

2:00 PM-3:50 PM: **Session 2: Software (OS)  
Performance Analysis**

Session Chair: Peter Magnusson, virtutech

Implementation and evaluation of a best-effort  
scheduling algorithm in an embedded real-time  
system

Peng Li, Binoy Ravindran, Tamir Hegazy (*Virginia  
Polytechnic Institute and State University*)

An evaluation of POSIX trace standard  
implemented in RT-Linux

Andrés Terrasa, Ignacio Pachés, Ana García-  
Fornes (*Universidad Polytechnica de Valencia,  
Spain*)

A cycle-accurate per-thread timer for Linux  
operating system

Yang Qian, Witawas Srisa-an, Therapon  
Skonitiotis, J. Morris Chang (*Illinois Institute of  
Technology*)

About the sensitivity of the HLRC-DU protocol to  
the diff and page sizes

Salvador Petit, Julio Sahuquillo, Ana Pont  
(*Universidad Polytechnica de Valencia, Spain*)

3:50 PM-4:15 PM: **Coffee Break**

4:15 PM-5:15 PM: **Session 3: E-Business:  
Workloads and Systems**

Session Chair: Nasr Ullah, Motorola

Geist: a generator of E-Commerce and Internet  
server traffic

Krishna Kant, Vijay Tewari, Ravi Iyer (*Intel  
Corporation*)

Performance characterization of multi-tier E-  
Business systems using queuing operational  
systems

Deep K. Buch, Vladimir M. Pentkovski (*Intel  
Corporation*)

6:00 PM: **Conference Reception**

Drinks and Hors d'oeuvres

## Tuesday, November 6:

### 8:00 AM-9:00 AM: **Session 4: Control-Flow Characterization**

Session Chair: Manoj Franklin, U of Maryland

Understanding the control flow transfer and its predictability in Java Processing

Tao Li, Lizy Kurian John (*University of Texas at Austin*)

The effects of context switching on branch predictor performance

Michele Co, Kevin Skadron (*University of Virginia*)

### 9:00 AM-9:30 AM: **Coffee Break**

### 9:30 AM-11:00 AM: **Session 5: Memory Characterization I**

Session Chair: Kathy Jackson, IBM

Evaluating internal memory fragmentation for Java programs

Therapon Skotiniotis, J. Morris Chang (*Illinois Institute of Technology*)

An evaluation of search tree techniques in the presence of caches

Costin Iancu, Anurag Acharya (*University of California, Santa Barbara*)

Automatic memory hierarchy characterization

CLark L. Coleman, Jack W. Davidson (*University of Virginia*)

### 11:00 AM-11:10 AM: **Break**

### 11:10 AM-12:00 PM: **Session 6: Memory Characterization II**

Session Chair: Kathy Jackson, IBM

Increasing file prediction accuracy with program- and user-based last successors

Tsozen Yeh, Darrell D. E. Long, Scott A. Brandt (*University of California, Santa Cruz*)

Efficient profile-based evaluation of randomising set index functions for cache memories

Hans Vandierendonck, Koen De Bosschere (*Ghent University, Belgium*)

### 12:00 PM-2 PM: **Lunch Break**

Lunch sponsored by ISPASS

### 12:00 PM-12:30 PM: **Invited Luncheon Speaker**

Frederica Darema (*NSF/CISE*)

Performance Engineering Projects funded under the NSF Next Generation Software (NGS) Program

### 2:00 PM-3:20 PM: **Session 7: Systems and Servers**

Session Chair: Frederica Darema, NSF

Workload characterization of multithreaded Java servers

Yue Luo, Lizy Kurian John (*University of Texas at Austin*)

Behavior and performance/scalability of interactive multiplayer internet game servers

Ahmed Abdelkhalek, Angelos Bilas, Andreas Moshovos (*University of Toronto*)

Parallel simulation of multiprocessor execution: implementation and results for simplescalar

Naraig Manjikian (*Queen's University, Kingston, Ontario*)

### 3:20 PM-3:40 PM: **Coffee Break**

### 3:40 PM-4:30 PM: **Session 8: Scheduling and Verification**

Session Chair: Todd Austin, U of Michigan

Locality-aware predictive scheduling of network processors

Tilman Wolf, Mark A. Franklin (*Washington University in St. Louis*)

Statistical usage testing applied to mobile network verification

Alexander Ost, Dorien van Logchem (*Ericson Eurolab, Germany*)

### 4:30 PM-5:50 PM: **Session 9: Advanced Microarchitectures and their Evaluation**

Session Chair: Pradip Bose, IBM

Balancing throughput and fairness in SMT processors

Kun Luo, Jayanth Gummaraju, Manoj Franklin (*University of Maryland*)

An empirical study of the scalability aspects of instruction distribution algorithms for clustered processors

Aneesh Aggarwal, Manoj Franklin (*University of Maryland*)

How to compare the performance of two SMT microarchitectures

Yiannakis Sazeides (*University of Cyprus*), Toni Juan (*Universitat Politècnica de Catalunya*)

### 5:50 PM: **Closing Remarks**

## Organizing Committee

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