SPONSORED BY USENIX IN COOPERATION WITH ACM SIGPLAN

3RD VIRTUAL MACHINE RESEARCH & TECHNOLOGY SYMPOSIUM

MAY 6–7, 2004
SAN JOSE, CALIFORNIA

VM '04

Dear Colleague,

I'm writing to invite you to attend the 3rd Virtual Machine Research & Technology Symposium (VM '04), which will be held May 6–7, 2004, in San Jose, CA.

Register by April 16 and SAVE!

VM '04 will continue to emphasize research and advanced engineering techniques applicable to the development of virtual machines, with an emphasis on experimental results. Building on the success of the two preceding Java™ Virtual Machine symposia, the 2004 VM Symposium has expanded its scope to encompass other types of virtual machines, such as Microsoft's .NET initiative and low-level virtual machines.

The technical program of the symposium includes 14 papers that represent some of the best work in this area, on topics that include virtual machine architecture and performance, low-level virtualization, dynamic optimization, and virtual grids. The symposium will feature two Keynote Addresses, one by Mendel Rosenblum, Associate Professor of Computer Science, Stanford University, and one by Miguel de Icaza, Co-founder and CTO of Ximian. In addition, VM '04 will feature Work-in-Progress Reports and several Birds-of-a-Feather sessions.

VM '04 promises to be an exciting meeting, presenting the best of current research on virtual machines. I hope you will join us in San Jose. Please visit www.usenix.org/vm04/sj and register online today!

Sincerely,
Tarek S. Abdelrahman, *University of Toronto*
VM '04 Program Chair

PROGRAM COMMITTEE

Program Chair
Tarek S. Abdelrahman, *University of Toronto*

Program Committee
Henri Bal, *Vrije Universiteit, The Netherlands*
Robert Berry, *IBM, UK*
Hans Boehm, *HP Labs, USA*
Michal Cierniak, *Microsoft, USA*
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Saul Wold, *Sun Microsystems, USA*

HOTEL INFORMATION

Hotel Information
Hotel Reservation Discount Deadline: April 16, 2004

Hyatt San Jose
Web site: http://hyattsanjose.hyatt.com

Rates: $109 single/double, $129 triple, $139 quad

REGISTRATION

Technical Session Registration Fees

Early Bird Rates (Register by April 19, 2004)
Member: $600
Nonmember: $710 *
Full-time Student Member: $260
Full-time Student Nonmember: $300 *
* Nonmember rates include a one-year USENIX membership.

Rates After April 19, 2004
Member: $750
Nonmember: $860 *
Full-time Student Member: $260
Full-time Student Nonmember: $300 *
* Nonmember rates include a one-year USENIX membership.

Register Online:
http://www.usenix.org/vm04/sj

Questions?
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Thanks to Microsoft® Research for support of student stipends

VM '04 TECHNICAL SESSIONS

THURSDAY, MAY 6–FRIDAY, MAY 7, 2004

WEDNESDAY, MAY 5

6:00 p.m. – 8:00 p.m. Welcome Reception

THURSDAY, MAY 6

8:45 a.m. – 10:30 a.m.

OPENING REMARKS, AWARDS, AND KEYNOTE
Keynote Speaker: Mendel Rosenblum, *Stanford University*

10:30 a.m. – 11:00 a.m. Break

11:00 a.m. – 12:30 p.m.

VIRTUAL MACHINE ARCHITECTURE

A Virtual Machine Generator for Heterogeneous Smart Spaces
Doug Palmer, *CSIRO ICT Centre*

MCI-Java: A Modified Java Virtual Machine Approach to Multiple Code Inheritance
Maria Cutumisu, Calvin Chan, Paul Lu, and Duane Szafron, *University of Alberta*

Semantic Remote Attestation—A Virtual Machine Directed Approach to Trusted Computing
Vivek Haldar, Deepak Chandra, and Michael Franz, *University of California, Irvine*

12:30 p.m. – 2:00 p.m. Lunch (on your own)

2:00 p.m. – 3:00 p.m.

VIRTUAL MACHINE PERFORMANCE

Towards Scalable Multiprocessor Virtual Machines
Volkmar Uhlig, Joshua LeVasseur, Espen Skoglund, and Uwe Dannowski, *Universität Karlsruhe*

Using Hardware Performance Monitors to Understand the Behavior of Java Applications
Peter F. Sweeney, *IBM Thomas J. Watson Research Center*; Matthias Hauswirth, *University of Colorado at Boulder*; Brendon Cahoon and Perry Cheng, *IBM Thomas J. Watson Research Center*; Amer Diwan, *University of Colorado at Boulder*; David Grove and Michael Hind, *IBM Thomas J. Watson Research Center*

3:00 p.m. – 3:30 p.m. Break

3:30 p.m. – 4:30 p.m.

VIRTUALIZATION

vBlades: Optimized Paravirtualization for the Itanium Processor Family
Daniel J. Magenheimer and Thomas W. Christian, *Hewlett Packard Laboratories*

Kernel Plugins: When a VM Is Too Much
Ivan Ganev, Greg Eisenhauer, and Karsten Schwan, *Georgia Institute of Technology*

THURSDAY, MAY 6 (CONTINUED)

4:30 p.m. – 5:30 p.m.

CODE GENERATION

The Virtual Processor: Fast, Architecture-Neutral Dynamic Code Generation
Ian Piumarta, *University of Paris 6*

LIL: An Architecture-Neutral Language for Virtual-Machine Stubs
Neal Glew, *Intel Corporation*; Spyridon Triantafyllis, *Princeton University*; Michal Cierniak, *Microsoft Corporation*; Marsha Eng, Brian Lewis, and James Stichnoth, *Intel Corporation*

6:00 p.m. – 7:30 p.m. Reception

8:00 p.m. – 10:00 p.m. Birds-of-a-Feather Sessions

FRIDAY, MAY 7

9:00 a.m. – 10:30 a.m.

KEYNOTE ADDRESS
Speaker: Miguel de Icaza, *Co-Founder and CTO, Ximian*

10:30 a.m. – 11:00 a.m. Break

11:00 a.m. – 12:30 p.m.

DYNAMIC TECHNIQUES

Detecting Data Races Using Dynamic Escape Analysis Based on Read Barrier
Hiroyasu Nishiyama, *HITACHI, Ltd.*

Towards Dynamic Interprocedural Analysis in JVMs
Feng Qian and Laurie Hendren, *McGill University*

Java Just-in-Time Compiler and Virtual Machine Improvements for Server and Middleware Applications
Nikola Grcevski, Allan Kielstra, Kevin Stoodley, Mark Stoodley, and Vijay Sundaresan, *IBM Canada Ltd.*

12:30 p.m. – 2:00 p.m. Symposium Luncheon

2:00 p.m. – 3:30 p.m. Work-in-Progress Reports (WiPs)

3:30 p.m. – 4:00 p.m. Break

4:00 p.m. – 5:00 p.m.

VIRTUAL GRIDS

Java, Peer-to-Peer, and Accountability: Building Blocks for Distributed Cycle Sharing
Ali Raza Butt, Xing Fang, Y. Charlie Hu, and Samuel Midkiff, *Purdue University*

Towards Virtual Networks for Virtual Machine Grid Computing
Ananth I. Sundararaj and Peter A. Dinda, *Northwestern University*

5:00 p.m. Wrap-up and Town Hall Discussion