3rd Workshop on Runtime and Operating Systems for the Many-core Era (ROME 2015)

held in conjunction with Euro-Par 2015

Carsten Clauss, Stefan Lankes

Topics of interest

- Operating system extensions for addressing may-core related issues
- Many-core aware runtime support for large-scale applications
- Virtualization solutions to deal with hardware limitations
- Tools for performance and energy consumption analysis on many-core systems
- Dealing with legacy software on novel many-core architectures
- Experiences in porting, running, or developing many-core applications
- Traditional and new programming models for novel many-core hardware
- Concepts and methods for exploiting deep memory hierarchies
- Operating system and file system designs for non-volatile memories
- Heterogeneity- and / or hierarchy-aware many-core middleware
- Software stacks for new concepts of compute acceleration
- Bare-metal programming and power-aware many-core computing

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Thanks to the PC

- Jens Breitbart, TU München, Germany
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- Carsten Clauss, ParTec Cluster Competence Center GmbH, Germany
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- Stefan Lankes, RWTH Aachen University, Germany
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- Michael Riepen, IAV GmbH, Germany
- Bettina Schnor, University of Potsdam, Germany
- Christian Terboven, RWTH Aachen Univeristy, Germany
- Theo Ungerer, Universität Augsburg, Germany
- Josef Weidendorfer, TU München, Germany

Agenda

Session 1 (09:00 – 10:30)

- Welcome speech and announcements
- Invited talk by Carsten Weinhold, TU Dresden, Germany: *A Microkernel-based Operating System for Exascale Computing*
- Stefan Nürnberger, Randolf Rotta, Gabor Drescher, Daniel Danner and Jörg Nolte, Diamond Rings: *Acknowledged Event Propagation in Many-Core Processors*

Coffee Break (10:30 – 11:00)

Agenda

- Juan Carlos Saez, Jorge Casas, Abel Serrano, Roberto Rodríguez-Rodríguez, Fernando Castro, Daniel Chaver and Manuel Prieto-Matias: *An OS-oriented performance monitoring tool for multicore systems*

- Nicolas Denoyelle, Brice Goglin and Emmanuel Jeannot: *A Topology-Aware Performance Monitoring Tool for Shared Resource Management in Multicore Systems*

- Angelos Papatriantafyllou: *Energy Characterization and Optimization of Parallel Prefix-Sums Kernels*

Announcements

- Meet the session chair at coffee break before your session starts
- Send your slides to me (slankes@eonerc.rwth-aachen.de) to publish on the web-site
- Copy your slides on our laptop (MS Powerpoint & Adobe Reader)
- Test the equipment at coffee break
- 25 minutes per talk + 5 minutes questions

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A Microkernel-based OS for Exascale Computing

Dr. Carsten Weinhold

since 2006 Member of the Chair for Operating Systems, TU Dresden, Germany

2013 Conferral of a doctorate about *Reducing Size and Complexity of the Security-Critical Code Base of File Systems*

since 2013 Member of the SPEXXA project *FFMK – A Fast and Fault-tolerant Microkernel-based System for Exascale Computing*

- SPEXXA: German Priority Programme Software for Exascale Computing

Thank you for your kind attention!

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