

Curriculum Vitae of Andreas Weissel

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Department of Computer Sciences 4
(Distributed Systems and Operating Systems)
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Research Interests

Power management, temperature management, energy measurement and estimation, embedded systems, operating system architectures, distributed systems, machine learning

Professional Experience

03/2002–present Research and teaching assistant at the Department of Distributed Systems and Operating Systems, Friedrich-Alexander University of Erlangen, Germany

05/2005–07/2005 Research and teaching assistant at the System Architecture Group (Prof. Dr. Bellosa), University of Karlsruhe, Germany

10/2004–11/2004 Visiting researcher at the University of Santa Catarina, Florianópolis, Brazil (Prof. Dr. Fröhlich); with financial support from the DLR

1997–2002 Student assistant and (2002) graduate assistant at the Fraunhofer Institute for Integrated Circuits IIS Erlangen; Department of Applied Electronics
Projects: Conditional Access Systems for Digital Audio Broadcasting, Smart Cards

Education

3/02–present Ph.D. study at the University of Erlangen (Prof. Wolfgang Schröder-Preikschat) and the University of Karlsruhe (Prof. Frank Bellosa)
Topic: *Operating System Services for Task-Specific Power Management*
Graduation expected December 2006

1/01 Diplom-Informatiker (MS Computer Science), with distinction

11/95–1/01 Study of Computer Science at the University of Erlangen

Distinction and Honours

Lab Teaching Award for “Power Management” selected by students as best exercise class of facultative lectures in computer science during the summer semester 2005 at the University of Karlsruhe.

Best Presentation Award for the talk on “Application Characterization for Wireless Network Power Management” at the International Conference on Architecture of Computing Systems (ARCS’04), Augsburg, Germany, March 2004

Refereed Conference and Workshop Publications

1. Andreas Weissel and Frank Bellosa, Self-Learning Hard Disk Power Management for Mobile Devices, to appear in: *Proceedings of the Second International Workshop on Software Support for Portable Storage (IWSSPS 2006)*, Seoul, Korea, October 2006
2. Andreas Weissel and Simon Kellner, Energy-Aware Reconfiguration of Sensor Nodes, in *Proceedings of the First GI/ITG Workshop on Non-Functional Properties of Embedded Systems (NFPES)*, Nuremberg, Germany, March 2006, pp. 69–75
3. Andreas Merkel, Andreas Weissel and Frank Bellosa, Event-Driven Thermal Management in SMP Systems, in: *Proceedings of the Second Workshop on Temperature-Aware Computer Systems (TACS'05)*, Madison, USA, June 2005
4. Andreas Weissel, Holger Scherl, Philipp Janda and Frank Bellosa, Revisiting Log-Structured File Systems for Low-Power Portable Storage, in: *Proceedings of the International Workshop on Software Support for Portable Storage (IWSSPS 2005)*, San Francisco, CA, USA, March 2005, pp. 15–22
5. Andreas Weissel and Frank Bellosa, Dynamic Thermal Management for Distributed Systems, in: *Proceedings of the First Workshop on Temperature-Aware Computer Systems (TACS-1)*, Munich, Germany, June 2004, pp. 3–13
6. Andreas Weissel, Matthias Faerber and Frank Bellosa, Application Characterization for Wireless Network Power Management, in: *Proceedings of the International Conference on Architecture of Computing Systems (ARCS'04)*, Springer LNCS 2981, Augsburg, Germany, March 2004, pp. 231–245
7. Frank Bellosa, Simon Kellner, Martin Waitz and Andreas Weissel, Event-Driven Energy Accounting for Dynamic Thermal Management, in: *Proceedings of the Workshop on Compilers and Operating Systems for Low Power (COLP'03)*, New Orleans, Louisiana, USA, September 2003
8. Andreas Weissel, Björn Beutel and Frank Bellosa, Cooperative I/O—A Novel I/O Semantics for Energy-Aware Applications, in: *Proceedings of the Fifth Symposium on Operating Systems Design and Implementation (OSDI '02)*, Boston, MA, December 2002, pp. 117–129
9. Andreas Weissel and Frank Bellosa, Process Cruise Control: Event-Driven Clock Scaling for Dynamic Power Management, in: *Proceedings of the International Conference on Compilers, Architecture and Synthesis for Embedded Systems (CASES 2002)*, Grenoble, France, October 2002, pp. 238—246

Other Publications

9. Andreas Weissel, Information Services for Energy-Aware Policies, *First EuroSys Doctoral Workshop*, organized by the European Chapter of ACM SIGOPS, Brighton, UK, October 2005

10. Andreas Weissel and Frank Bellosa, Quantifying Application Performance for Adaptive Power Management, *Fachgespräch Energiebewusste Systeme und Methoden*, Erlangen, October 2005
11. Andreas Weissel, Fauze V. Polpeta and Frank Bellosa, Power-Aware Caches for SoCs, *Systemsoftware für Pervasive Computing, Fachgespräch der GI/ITG-Fachgruppe Kommunikation und Verteilte Systeme*, Stuttgart, October 2004
12. Andreas Weissel and Frank Bellosa, OS-Directed Power Management for Energy-Aware Systems, *Colloquium on Embedded Systems*, Laboratory for Software and Hardware Integration, Federal University of Santa Catarina, Florianopolis, Brasil, October 2004

Teaching Experience

Power Management Lab course: supervision of 5 student projects on operating system power management (C / Linux kernel)

Middleware Exercise class covering general aspects of distributed systems and .NET in particular

Concepts of Operating System Components Introductory seminar to operating system concepts for first-year students

Supervised Master's Theses (Diplomarbeiten)

- Thomas Hirth: *Energy Characterization of reconfigurable computing systems*, DA-I4-2006-06, April 2006
- Simon Kellner: *Energy Accounting and Control for Sensor Nodes*, DA-I4-2006-02, January 2006
- Holger Wunderlich: *Operating System Support for Power Management of Mobile Robots*, DA-I4-2005-22, January 2006
- Thomas Weinlein: *Application-Specific Energy Management in Operating Systems*, DA-I4-2005-01, January 2005
- Jürgen Obernolte: *Energy-Aware Memory Management*, DA-I4-2003-04, April 2003
- Martin Waitz: *Accounting and Control of Power Consumption in Energy-Aware Operating Systems*, DA-I4-2003-02, January 2003
- Andreas Mull: *Optimizing Energy Consumption by Event-Driven Frequency Scaling*, DA-I4-2002-07, May 2002

Supervised Study or Semester Theses (Studienarbeiten)

- Florian E. J. Fruth: *Run-Time Energy Characterization of the Intel PXA*, SA-I4-2005-04, April 2005
- Philipp Janda: *Energy-Aware Reorganization in Log-Structured File Systems*, SA-I4-2005-03, April 2005
- Holger Wunderlich: *Energy-Aware Memory Compression*, SA-I4-2004-xx, October 2004
- Stephan Sigwart: *Power Management for Server Clusters*, SA-I4-2004-10, April 2004
- Torsten Ehlers: *Transparent Energy Accounting in Distributed Systems*, SA-I4-2004-09, March 2004
- Matthias Faerber: *Application-Specific Power Management for Wireless Networks*, SA-I4-2004-02, January 2004
- Holger Scherl: *Design and Implementation of an Energy-Aware File System*, SA-I4-2004-01, January 2004
- Simon Kellner: *Event-Driven Temperature Control in Operating Systems*, SA-I4-2003-02, April 2003
- Björn Beutel: *Saving Energy by Coordinating Hard Disk Accesses*, SA-I4-2002-06, April 2002

Personal Information

German citizenship.

References

Prof. Dr.-Ing. Wolfgang Schröder Preikschat Head of the Department of Computer Sciences 4, Friedrich-Alexander University of Erlangen-Nuremberg, Martensstr. 1, 91058 Erlangen, Germany, +49.9131.85.27278, wosch@cs.fau.de

Prof. Dr.-Ing. Frank Bellosa Head of the System Architecture Group, University of Karlsruhe, Karlsruhe, Germany, +49.721.608.3834, bellosa@ira.uka.de

Prof. Dr. Antônio Augusto Fröhlich Head of the Laboratory for Software/Hardware Integration (LISHA) at the Federal University of Santa Catarina, Florianópolis, Brazil, +55.48.3331.9516, guto@lisha.ufsc.br

Dr.-Ing. Jürgen Kleinöder Assistant Professor at the Department of Computer Science 4, Friedrich-Alexander University of Erlangen-Nuremberg, Martensstr. 1, 91058 Erlangen, Germany, +49.9131.85.28028, kleinoeder@cs.fau.de