

CSCE 790 Power-Conscious Computing Reading List (as of 1/20/05)

Intro material and tools

- 1 D. M. Brooks, P. Bose, S. E. Schuster, H. Jacobson, P. N. Kudva, A. Buyuktosunoglu, J.-D. Wellman, V. Zyuban, M. Gupta, and P. W. Cook, "Power-Aware Microarchitecture: Design and Modeling Challenges for Next-Generation Microprocessors," *IEEE Micro*, 20 (6), pp. 26-44, 2000.
- 2 D. Brooks, V. Tiwari, and M. Martonosi, "Wattch: A Framework for Architectural-Level Power Analysis and Optimizations," in proceedings of 27th International Symposium on Computer Architecture, pp. P. 83-94, Vancouver, BC, 2000.
- 3 L. Benini, A. Bogliolo and G. De Micheli, "A Survey of Design Techniques for System-Level Dynamic Power Management," *IEEE Transactions on VLSI*, 8(3), June 2000.
- 4 N. Vijaykrishnan, M. Kandemir, M. Irwin, H. Kim, W. Ye, and D. Duarte, "Evaluating Integrated Hardware-Software Optimizations Using a Unified Energy Estimation Framework," *IEEE Transactions on Computers*, 52(1), pp 59-76, 2003.
- 5 H. Wang, X. Zhu, L. Peh, S. Malik, "Orion: A Power-performance Simulator for Interconnection Networks," *Proceedings of Micro-35*, 2002.

Microarchitectures

- 6 B. Fields, R. Bodik, M. Hill, "Slack: Maximizing Performance Under Technological Constraints," *Proceedings of 29th International Symposium on Computer Architecture*, 2002.
- 7 V. Tiwari, D. Singh, S. Rajgopal, G. Mehta, R. Patel, F. Baez, "Reducing Power in High-Performance Microprocessors," *35th Design Automation Conference*, 1998.
- 8 R. Gonzalez and M. Horowitz, "Energy Dissipation in General Purpose Microprocessors," *IEEE Journal of Solid-State Circuits*, 31(9), pp 1277-1284, 1996.
- 9 J. Lorch, and A. Smith, "Improving Dynamic Voltage Scaling Algorithms with PACE," *Proceedings of ACM SIGMETRICS 2001*.

Systems

- 10 Y. Lu, L. Benini, G. Micheli, "Power-aware operating systems for interactive systems," *IEEE Transactions on VLSI Systems*, 10(2), April 2002.
- 11 H. Zeng, C. Ellis, A. Lebeck, and A. Vahdat, "ECOSystem: Managing Energy as a First-Class Operating System Resource," in proceedings of *Proceedings of Architectural Support for Programming Languages and Operating Systems (ASPLOS X)*, pp. 123-32, San Jose, CA, 2002.
- 12 Lebeck, X. Fan, H. Zheng, C. Ellis, "Power-aware page allocation," *ACM SIGOPS Operating Systems Review*, 34(5), December 2000.
- 13 V. Delaluz, M. Kandemir, N. Vijaykrishnan, A. Sivasubramaniam, M. Irwin, "Hardware and Software Techniques for Controlling DRAM Power Modes," *IEEE Transactions on Computers* 50(11), November 2001.
- 14 Gniady, Y. C. Hu, and Y.-H. Lu, "Program Counter Based Techniques for Dynamic Power Management," in proceedings of *International Symposium on High-Performance Computer Architecture (HPCA-10)*, Madrid, Spain, 2004.

Heat Dissipation

- 15 D. Brooks, M. Martonosi, "Dynamic Thermal Management for High-Performance Microprocessors," *Proceedings of the 7th International Symposium on High-Performance Computer Architecture*, January 2001.
- 16 K. Skadron, M. Stan, W. Huang, S. Velusamy, K. Sankaranarayanan, D. Tarjan, "Temperature-aware Microarchitecture," *Proceedings of the 30th International Symposium on Computer Architecture*, June 2003.
- 17 Andreas Weißel and Frank Bellosa, "Dynamic Thermal Management for Distributed Systems" *Proceedings of the First Workshop on Temperature-Aware Computer Systems (TACS'04)*, Munich, Germany, June 20, 2004

Distributed Systems

- Chip 18 J. Koomey, "Sorry, Wrong Number: How to separate fact from fiction in the Information Age", IEEE Spectrum, pp11-12, June 2003.
- Rong 19 C. Lefurgy, K. Rajamani, F. Rawson, W. Felter, M. Kistler, and T. Keller, "Energy Management for Commercial Servers," *IEEE Computer*, 36 (12), pp. 39-48, 2003.
- Allen 20 X. Feng, R. Ge, and K. W. Cameron , Power and Energy of Scientific Applications on Distributed Systems, to appear 19th International Parallel and Distributed Processing Symposium (IPDPS 05), April 2005.
- ** A few others as time permits...