

## Advanced Computer Architecture Reading List

### Machines

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- Larry F. Petrini, D. J. Kerbyson, and S. Pakin, "The Case of the Missing Supercomputer Performance: Achieving Optimal Performance on the 8,192 Processors of ASCI Q," in proceedings of Supercomputing 2003, Phoenix, AZ, 2003.
- Drew N. Adiga, G. Almasi, et al. "An Overview of the BlueGene/L Supercomputer," in proceedings of Supercomputing 2002, Baltimore, MD, 2003.

### Speedup

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### Models of Computation

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### Tools

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- Allen J. S. Vetter and P. Worley, "Asserting Performance Expectations," in proceedings of Supercomputing 2002, Baltimore, MD, 2002.
- Mukund B. P. Miller, M. D. Callaghan, J. M. Cargille, J. K. Hollingsworth, R. B. Irvin, K. L. Karavanic, K. Kunchithapadam, and T. Newhall, "The Paradyn Parallel Performance Measurement Tools," *IEEE Computer*, 28 (11), pp. 37-46, 1995.
- Conor R. Joseph, D. Brooks, and M. Martonosi, "Live, runtime power measurements as a foundation for evaluating power/performance tradeoffs," in proceedings of Workshop on Complexity-effective Design, Goteborg, Sweden, 2001.

### Power-aware systems

- Larry 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.
- Drew 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.
- Xijiang L. Benini and G. De Micheli, "System-level power optimization: techniques and tools," *ACM Transactions on Design Automation of Electronic Systems (TODAES)*, 5 (2), pp. 115-92, 1999.

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T. Heath, E. Pinheiro, J. Hom, U. Kremer, and R. Bianchini, "Application Transformations for Energy and Performance-Aware Device Management," in proceedings of 2002 International Conference on Parallel Architectures and Compilation Techniques (PACT'02), pp. 121-9, Charlottesville, Virginia, 2002.

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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), pp. 123-32, San Jose, CA, 2002.

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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.

Larry

L. Benini, M. Kandemir, and J. Ramanujam, *Compilers and Operating Systems for Low Power*: Kluwer Academic Publishers, 2003. (See Cameron for chapter)

Drew

C. 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.

## **Emerging architectures**

*TBD*