

Mobile Grid

Major Area Examination Reading List

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1 General Issues in Mobile Computing

1. M. Satyanarayanan, "Fundamental Challenges in Mobile Computing." In Proceedings of the fifteenth annual ACM Symposium on Principles of Distributed Computing, Philadelphia, Pennsylvania, 1996.
2. Dan Duchamp, "Issues in Wireless Mobile Computing." In Proceedings of the third IEEE Workshop on Workstation Operating Systems, Key Biscayne, Florida, April 1992.
3. V. Bharghavan, "Challenges and Solutions to Adaptive Computing and Seamless Mobility over Heterogeneous Wireless Networks." IEEE Personal Communications Magazine, Vol. 4, March 1997.
4. George H. Forman, John Zahorjan, "The Challenges of Mobile Computing." IEEE Computer 27, 4 (April 1994), pp. 38-47.
5. M. Satyanarayanan, "Pervasive Computing: Vision and Challenges." IEEE Personal Communications, August 2001.
6. Guruduth Banavar, James Beck, Eugene Gluzberg, Jonathan Munson, Jeremy Sussman, Deborra Zukowski. "Challenges: an application model for pervasive computing." In Proceedings of ACM 6th International Conference on Mobile Computing and Networking, Boston, MA, August 2000.
7. J. Jing, A. Helal, and A. Elmagarmid, "Client-Server Computing in Mobile Environments." ACM Computing Surveys, Vol.31, No.2, June 1999.
8. Licia Capra, Wolfgang Emmerich, Cecilia Mascolo. "Middleware for Mobile Computing (A Survey)". UCL Research Note RN/30/01. Submitted for publication. July 2001.

2 Grid Computing

1. I. Foster and C. Kesselman, "The Grid: Blueprint for a New Computing Infrastructure." Morgan Kaufmann, San Francisco, CA, 1999.
2. I. Foster, C. Kesselman, S. Tuecke, "The Anatomy of the Grid: Enabling Scalable Virtual Organizations." International Journal on Supercomputing Applications, 15(3), 2001.
3. Ian Foster, Carl Kesselman, Jeffrey M. Nick, Steven Tuecke, "The Physiology of the Grid: An Open Grid Services Architecture for Distributed Systems Integration." Draft overview of the Open Grid Services Architecture (OGSA), latest version from here (at www.globus.org).
4. I. Foster, C. Kesselman, "Globus: A Metacomputing Infrastructure Toolkit." Intl J. Supercomputer Applications, 11(2):115-128, 1997.

3 Scheduling

1. T. L. Casavant and J. G. Kuhl, "A Taxonomy of Scheduling in General-Purpose Distributed Computing Systems." IEEE Transactions on Software Engineering, Vol. 14, No. 2, pp. 141-154, Feb. 1988.

2. F. Berman, R. Wolski, S. Figueira, J. Schopf, and G. Shao, "Application-Level Scheduling on Distributed Heterogeneous Networks." In Proceedings of Supercomputing 96, Pittsburgh, PA, Nov. 1996.
3. Harold S. Stone, "Multiprocessor Scheduling with the Aid of Network Flow Algorithms." IEEE Transactions on Software Engineering, Vol. SE-3, No. 1, Jan, 1977.
4. Shahid H. Bokhari, "Partitioning problems in parallel, pipelined and distributed computing." IEEE Transactions on Computers, 37(1):48-57, 1988.
5. Alain Billionnet, "Partitioning multiple-chain-like task across a host-satellite system." Information Processing Letters, 48(5):261-266, 10 December 1993.
6. D. L. Eager, E. D. Lazowska, J. Zahorjan, "Adaptive Load Sharing in Homogeneous Distributed Systems." IEEE Transactions on Software Engineering, Vol. 12, No. 5, May 1986.
7. Mor Harchol-Balter, Allen Downey. "Exploiting Process Lifetime Distributions for Dynamic Load Balancing." ACM Transactions on Computer Systems, Vol. 15, No. 3, August 1997.

4 Energy-Aware Computing

1. N. Vijaykrishnan, M. Kandemir, M. J. Irwin, H. S. Kim, W. Ye, "Energy-driven integrated hardware-software optimizations using SimplePower." In Proceedings of the 27th annual international symposium on Computer architecture, Vancouver, British Columbia, Canada, 2000.
2. David Brooks, Vivek Tiwari, Margaret Martonosi, "Wattch: a framework for architectural-level power analysis and optimizations." In Proceedings of the 27th annual international symposium on Computer architecture, Vancouver, British Columbia, Canada, 2000.
3. Keith I. Farkas, Jason Flinn, Godmar Back, Dirk Grunwald, Jennifer M. Anderson, "Quantifying the Energy Consumption of a Pocket Computer and a Java Virtual Machine.", In Proceedings of the international conference on Measurements and modeling of computer systems, Santa Clara, California, United States, 2000.
4. Jason Flinn, Keith I. Farkas, Jennifer Anderson, "Power and Energy Characterization of the Itsy Pocket Computer (Version 1.5).", Compaq WRL Technical Note TN-56, 2000.
5. V. Tiwari, S. Malik, A. Wolfe, "Power Analysis of Embedded Software: A First Step Towards Software Power Minimization." IEEE Transactions on VLSI Systems, Vol. 2, No. 4, December 1994.
6. Jeffrey T. Russel, Margarida F. Jacome, "Software Power Estimation and Optimization for High Performance, 32-bit Embedded Processors." In Proceedings of International Conference on Computer Design (ICCD 98), Oct 1998.
7. Laura Marie Feeney, Martin Nilsson, "Investigating the Energy Consumption of a Wireless Network Interface in an Ad Hoc Networking Environment." IEEE Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM 2001), Apr. 2001.
8. M. Stemm, R. H. Katz, "Measuring and reducing energy consumption of network interfaces in hand-held devices." IEEE Transactions on Communications, Vol. E80-B, No. 8, 1997.
9. Sung Park and Andreas Savvides, Mani Srivastava, "Battery capacity measurement and analysis using lithium coin cell battery." In Proceedings of the 2001 international symposium on Low power electronics and design (ISLPED 01), Huntington Beach, California, United States, 2001.
10. Robin Kravets, P. Krishnan, "Power management techniques for mobile communication." In Proceedings of the fourth annual ACM/IEEE international conference on Mobile computing and networking, Dallas, Texas, United States, 1998.
11. Johan Pouwelse, Koen Langendoen, Henk Sips, "Dynamic voltage scaling on a low-power microprocessor." In Proceedings of the seventh ACM annual international conference on Mobile computing and networking, Rome, Italy, 2001.

12. Padmanabhan Pillai, Kang G. Shin, "Real-Time Dynamic Voltage Scaling for Low-Power Embedded Operating Systems." In Proceedings of Eighteenth ACM Symposium on Operating System Principles, Chateau Lake Louise, Banff, Canada, October 21-24, 2001.
13. G. A. Paleologo, L. Benini, A. Bogliolo, G. De Micheli, "Policy Optimization for Dynamic Power Management." Design Automation Conference, pp. 182-187, June 1998.
14. Q. Qiu, M. Pedram, "Dynamic power management based on continuous-time Markov decision processes." Design Automation Conference, pp. 555-561, 1999.
15. T. Simunic, L. Benini, P. Glynn, G. De Micheli, "Event-Driven Power Management." IEEE Transactions on Computer-Aided Design, July 2001.
16. Alexey Rudenko, Peter Reiher, Gerald J. Popek, Geoffrey H. Kuenning, "Saving Portable Computer Battery Power through Remote Process Execution." ACM Mobile Computing and Communications Review, Vol. 2, No. 1, 1998.
17. U. Kremer, J. Hicks, J. Rehg, "A Compilation Framework for Power and Energy Management on Mobile Computers." Proceedings of the 14th International Workshop on Parallel Computing (LCPC'01), August 2001.
18. Zhiyuan Li, Cheng Wang, Rong Xu, "Computation offloading to save energy on handheld devices: a partition scheme." In Proceedings of the international conference on compilers, architecture, and synthesis for embedded systems, Atlanta, Georgia, USA, 2001.
19. Eui-Young Chung, Luca Benini, Giovanni De Micheli, "Source Code Transformation based on Software Cost Analysis." International Symposium on Systems Synthesis (ISSS2001), Montreal, Quebec, Canada, 2001.

5 Adaptation

1. James J. Kistler, M. Satyanarayanan, "Disconnected Operation in the Coda File System." ACM Transactions on Computer Systems, Feb. 1992, Vol. 10, No. 1, pp. 3-25.
2. M. Satyanarayanan, "The evolution of Coda." ACM Transactions on Computer Systems (TOCS), Vol.20, No.2, 2002.
3. Brian D. Noble, M. Satyanarayanan, Dushyanth Narayanan, James Eric Tilton, Jason Flinn, Kevin R. Walker, "Agile Application-Aware Adaptation for Mobility." In Proceedings of the 16th ACM Symposium on Operating System Principles, St. Malo, France, Oct 1997.
4. Mark Yarvis, Peter Reiher, Kevin Eustice, and Gerald J. Popek, "Conductor: Enabling Distributed Adaptation." UCLA Tech Report CSD-TR-010025, June 2001.
5. A. J. Demers, K. Petersen, M. J. Spreitzer, D. B. Terry, M. M. Theimer, B. B. Welch, "The Bayou Architecture: Support for Data Sharing among Mobile Users." In Proceedings of the Workshop on Mobile Computing Systems and Applications, Santa Cruz, California, December 1994, pages 2-7.
6. Bruce Zenel, Dan Duchamp, "A general purpose proxy filtering mechanism applied to the mobile environment." In Proceedings of the third annual ACM/IEEE international conference on Mobile computing and networking, Budapest, Hungary, 1997.
7. A. Fox, S. D. Gribble, Y. Chawathe, E.A. Brewer, "Adapting to Network and Client Variation Using Infrastructural Proxies: Lessons and Perspectives." IEEE Personal Communications, 5(4):10-19, August 1998.
8. Aline Baggio, "System support for transparency and network-aware adaptation in mobile environments." In Proceedings of the 1998 ACM symposium on Applied Computing (SAC 1998), Atlanta, Georgia, United States, 1998.

9. Nigel Davies, Adrian Friday, Gordon Blair, Keith Cheverst, "Distributed Systems Support for Adaptive Mobile Applications." *ACM Mobile Networks and Applications, Special Issue on Mobile Computing - System Services, Volume 1, Number 4, 1996.*
10. Nigel Davies, Stephen Wade, Adrian Friday, Gordon Blair, "Limbo: A Tuple Space Based Platform for Adaptive Mobile Applications." In *Proceedings of the International Conference on Open Distributed Processing/Distributed Platforms (ICODP/ICDP '97)*, Toronto, Canada, 27-30 May 1997.
11. Peter Sutton, Rhys Arkins, Bill Segall, "Supporting Disconnectedness - Transparent Information Delivery for Mobile and Invisible Computing." *IEEE International Symposium on Cluster Computing and the Grid (CCGrid 2001)*, 15-18 May 2001, Brisbane, Australia.
12. Mark Yarvis, Peter Reiher, Gerald J. Popek, "A Reliability Model for Distributed Adaptation." *The Third IEEE Conference on Open Architectures and Network Programming*, Tel-Aviv, Israel, March 2000.
13. Anthony D. Joseph, Joshua A. Tauber, M. Frans Kaashoek, "Building Reliable Mobile-Aware Applications using the Rover Toolkit," In *Proceedings of the Second ACM International Conference on Mobile Computing and Networking (MobiCom'96)*. November 1996.

6 Wireless Communication and Networking

1. Ivan Stojmenovic, "Handbook of Wireless Networks and Mobile Computing." John Wiley & Sons, Inc., 2002.
2. B. P. Crow, I. Widjaja, L. G. Kim, P. T. Sakai, "IEEE 802.11 Wireless Local Area Networks." *IEEE Communications Magazine*, Sep. 1997.
3. Charles E. Perkins, "Mobile IP", *IEEE Communications Magazine*, May 1997.
4. Charles E. Perkins, "Mobile Networking through Mobile IP." *IEEE Internet Computing*, Vol. 2, No. 1, Jan/Feb 1998.
5. Charles E. Perkins, "IP Mobility Support." RFC 2002.
6. C. E. Perkins, P. Bhagwat, "Highly Dynamic Destination-Sequenced Distance-Vector Routing (DSDV) for Mobile Computers." In *Proceedings of the ACM SIGCOMM conference on Communications architectures, protocols and applications (SIGCOMM'94)*.
7. C. E. Perkins, E. M. Royer, "Ad-hoc On-Demand Distance Vector Routing." In *Proceedings of the 2nd IEEE Workshop on Mobile Computing Systems and Applications*, New Orleans, LA, February 1999, pp. 90-100.
8. Elizabeth M. Royer, C.-K. Toh, "A Review of Current Routing Protocols for Ad-Hoc Mobile Wireless Networks." *IEEE Personal Communications Magazine*, Apr 1999.

7 Security

1. B. Clifford Neuman and Theodore Tso. Kerberos: An authentication service for computer networks. *IEEE Communications*, 32(9), September 1994.
2. Armando Fox, Steven D. Gribble, "Security on the move: indirect authentication using Kerberos." In *Proceedings of the second annual international conference on Mobile computing and networking (MobiCom'96)*, Rye, New York, United States, 1996.

8 Peer-to-Peer Computing

1. Dejan S. Milojevic, Vana Kalogeraki, Rajan Lukose, Kiran Nagaraja1, Jim Pruyne, Bruno Richard, Sami Rollins, Zhichen Xu, "Peer-to-Peer Computing." HP Labs Technical Report, HPL-2002-57.

2. C. G. Plaxton, R. Rajaraman, A. W. Richa. "Accessing nearby copies of replicated objects in a distributed environment." *Theory of Computing Systems*, 32:241-280, 1999.
3. B. H. Bloom, "Space/time Trade-offs in Hash Coding with Allowable Errors." *Communications of the ACM* 13, 7 (July 1970), 422-426.
4. Sylvia Ratnasamy, Paul Francis, Mark Handley, Richard Karp, Scott Shenker, "A Scalable Content-Addressable network." In *Proceedings of the SIGCOMM 2001*, pp 161-172, 2001.
5. Ion Stoica, Robert Morris, David Liben-Nowell, David R. Karger, M. Frans Kaashoek, Frank Dabek, Hari Balakrishnan, "Chord: A Scalable Peer-to-peer Lookup Protocol for Internet Applications." To Appear in *IEEE/ACM Transactions on Networking* (after 2002).
6. A. Rowstron, P. Druschel, "Pastry: Scalable, distributed object location and routing for large-scale peer-to-peer systems." *IFIP/ACM International Conference on Distributed Systems Platforms (Middleware)*, Heidelberg, Germany, pages 329-350, November, 2001.
7. Ben Y. Zhao, John D. Kubiawicz, Anthony D. Joseph, "Tapestry: An Infrastructure for Fault-tolerant Wide-area Location and Routing." U. C. Berkeley Technical Report UCB/CSD-01-1141, April, 2001.
8. Kirsten Hildrum, John D. Kubiawicz, Satish Rao, Ben Y. Zhao, "Distributed Object Location in a Dynamic Network." *Proceedings of the Fourteenth ACM Symposium on Parallel Algorithms and Architectures (SPAA)*, 2002.