

CURRICULUM VITAE

Randy H. Katz

Business Address:

Computer Science Division, EECS Department
465 Soda Hall
University of California
Berkeley, CA 94720-1776
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Education:

1. Ph.D. (Computer Science), University of California, Berkeley, June 1980.
Thesis: Database Design and Translation for Multiple Data Models.
Advisor: Eugene Wong
2. M.S. (Computer Science), University of California, Berkeley, June 1978.
Thesis: Compilation of Database Queries. Advisor: Lawrence Rowe.
3. A.B. (Computer Science), Cornell University, May 1976.

Academic Honors and Awards:

Diane S. McEntyre Distinguished Teaching Award, Computer Science Division, EECS Department, 2008;
Distinguished Lecturer, Department of Computer Science, University of Wisconsin-Madison, Madison, WI, (February 2008);
Keynote Address, MANWEEK Conferences, San Jose, CA, (October 2007);
Distinguished Lecturer, Department of Computer Science, Wayne State University, Detroit, MI, (September 2007);
Keynote Address, IWQoS 2007, Evanston, IL, (June 2007).
Doctor of Philosophy (Honoris Causa), University of Helsinki, Finland, (May 2007);
Keynote Address, NOMS 2006, Vancouver, Canada, (April 2006);
Keynote Address, IWQoS 2005, Passau, Germany, (June 2005);
Distinguished Visiting Professor, Facolta di Scienze Informatiche, Universita della Svizzera Italiana (USI), Lugano, Switzerland, (June 2005);
Best Paper Award, F. Yu, T. V. Lakshman, R. H. Katz, "Gigabit Rate Pattern-Matching using TCAM," International Conference on Network Protocols (ICNP), Berlin, Germany, (October 2004).
Best Paper Award, F. Yu, T. V. Lakshman, R. H. Katz, "Multi-class Classification using TCAM," Hot Interconnects: 12th Symposium on High Performance Interconnects, Stanford, CA, (August 2004).
Best Student Paper Award, USENIX Network and Distributed Information Systems (NDIS) Conference, San Francisco, CA, (March 2004), L. Subramanian, V. Roth, I. Stoica, R. H. Katz, S. Shenker, "Listen and Whisper: Security Mechanisms for BGP," USENIX/ACM Symposium on Networked System Design and Implementation (NSDI'04), San Francisco, CA, (March 2004).
Best Student Paper Award, CRA Grace Murray Hopper Celebration of Women in Computer Science Conference. Vancouver, BC, (October 2002), Z. Mao, R. H. Katz, "A Framework for Universal Service Access using Device Ensembles." (Mao selected for Hopper Young Investigator Award).
ACM SIGMOBILE Outstanding Contributor Award, 2002;
American Academy of Arts and Sciences, Class of 2002;
Keynote Address, Pervasive 2002, Zurich, Switzerland, (August 2002);
Keynote Address, Networking 2002, Pisa Italy, (May 2002);
Keynote Address, International Conference on Networking Protocols (ICNP), Riverside, CA, (October 2001);
Best Paper Award, S. D. Gribble, M. Welsh, R. von Behren, E. A. Brewer, D. Culler, N. Borisov, S. Czerwinski, R. Gummadi, J. Hill, A. Joseph, R. H. Katz, Z. M. Mao, S. Ross, B. Zhao, "The Ninja Architecture for Robust Internet-Scale Systems and Services," *Journal of Computer Networks, Special Issue on Pervasive Computing*, V 35, N 4, (March 2001), pp. 473-497.
National Academy of Engineering, Class of 2000;

ACM Karl V. Karlstrom Outstanding Educator Award, (May 2000);
 Keynote Address, 20th IEEE International Conference on Distributed Computing Systems, Taipei, Taiwan;
 Decoration for Exceptional Civilian Service, Department of the Air Force, for Service on the United States Air Force Scientific Advisory Board, 1997-1999, (November 1999);
 1999 American Society for Engineering Education (ASEE) Frederick Emmons Terman Award for *Contemporary Logic Design*, Addison-Wesley-Longham, Reading, MA, 1993. Outstanding engineering textbook published by an author under the age of 40 who receives the award before his/her 45th birthday;
 1999 ACM Doctoral Dissertation Award for Dr. Hari Balakrishnan, "Challenges to Reliable Data Transport over Heterogeneous Environments," (May 1998), currently Associate Professor, MIT Laboratory for Computer Science;
 Keynote Address, 43rd Swiss Conference on Communications, Berne, Switzerland, (March 1999);
 1999 IEEE Reynold B. Johnson Information Storage Award "for the development of Redundant Arrays of Inexpensive Disks (RAID)." With David Patterson and Garth Gibson;
 Keynote Address, 8th INRIA-Industry Meeting on Computer Software for Communications and Multimedia, Paris, France, (November 1998);
 Best Paper Award, ACM SIGCOMM'98 Conference, Vancouver, Canada, 1998;
 ACM SIGMOD 1998 "Test of Time Award" for the Most Influential Paper Published in the 1988 ACM SIGMOD Proceedings (Patterson, Gibson, Katz, "The Case for Redundant Arrays of Inexpensive Disks (RAID)");
 The United Microelectronics Corporation Distinguished Professor in Electrical Engineering and Computer Science, 1996 - Present;
 Invited Plenary Speaker, IEEE ICCD'97 Conference, Austin, TX, 1997;
 Best Paper Award, ACM Multimedia Conference, Seattle, WA, 1997;
 Best Paper Award, IEEE ICCD'97 Conference, Austin, TX, 1997;
 Best Paper Award, ACM/IEEE Mobile Computing Conference, Budapest, Hungary, 1997;
 Keynote Address, ACM/IEEE Mobile Computing Conference, Budapest, Hungary, 1997;
 Keynote Address, ACM Workshop on Satellite-Based Information Systems, Budapest, Hungary, 1997;
 Fellow of the ACM, 1996;
 Fellow of the IEEE, 1996;
 Best Paper Award, ACM Mobile Computing and Networks Conference (MCN'95), Oakland, CA, 1995;
 Computing Research Association, Distinguished Service Award, 1995;
 Keynote Address, ASPLOS VI Conference, San Jose, CA, 1994;
 Keynote Address, Third International Conference on Parallel and Distributed Systems, Austin, TX, 1994;
 Distinguished Alumni Award, Computer Science and Engineering, University of California, Berkeley, 1994;
 Brice Colloquium Lecturer, Rice University, Houston, TX, 1994;
 Keynote Address, ACM SIGUCCS User Services Conference, San Diego, CA, 1993;
 Keynote Address, Computer Elements Workshop, Vail, CO, 1992;
 Distinguished Teaching Award, Academic Senate, University of California, Berkeley, 1991-1992;
 I.E.E.E. Certificate of Appreciation for Program Chairmanship of Second International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS-II);
 Best Presentation Award: I.E.E.E. International Conference on Computer Design (ICCD'86);
 Distinguished Invited Lecturer: University of Colorado-Boulder, (March 1988);
 Distinguished Invited Lecturer: University of Wisconsin-Madison, (November 1987);
 Best Paper Award: 23rd A.C.M./I.E.E.E. Design Automation Conference, (June 1986);
 Best Presentation Award: 23rd A.C.M./I.E.E.E. Design Automation Conference, (June 1986);
 Best Panel Session Award: 33rd I.E.E.E. International Solid-State Circuits Conference (February 1986);
 I.B.M. Faculty Development Award 1984 - 1986;
 National Science Foundation Presidential Young Investigator 1984 - 1989;
 I.E.E.E. Certificate of Appreciation for Associate Editorship of Database Engineering Newsletter;
 Best Presentation Award: 19th A.C.M./I.E.E.E. Design Automation Conference (June 1982);
 I.B.M. Predoctoral Fellowship; Sigma Xi; Phi Beta Kappa; Phi Kappa Phi; Cornell Regents Scholarship; Cornell College Scholar

Professional Society Memberships:

Association for Computing Machinery (Fellow);
 Institute of Electrical and Electronics Engineers (Fellow);
 American Society for Engineering Education (ASEE);

Employment:

1. July 1989 - Present: Full Professor (1996-Present, the United Microelectronics Corporation Distinguished Professor in EECS), Computer Science Division, Electrical Engineering and Computer Sciences Department, University of California, Berkeley, Berkeley, CA.
2. July 1996 – June 1999: Chairman, Electrical Engineering and Computer Science Department, University of California, Berkeley, Berkeley, CA.
3. January 1993 - December 1994: Program Manager and Deputy Director, Computer Systems Technology Office (now Information Technology Office), Advanced Research Projects Agency, Department of Defense, Arlington, VA.
4. July 1985 - June 1989: Associate Professor, Computer Science Division, Electrical Engineering and Computer Sciences Department, University of California, Berkeley, Berkeley, CA.
5. July 1983 - June 1985: Assistant Professor, Computer Science Division, Electrical Engineering and Computer Sciences Department, University of California, Berkeley, Berkeley, CA.
6. July 1981 - June 1983: Assistant Professor, Computer Sciences Department, University of Wisconsin-Madison, Madison, WI.
7. October 1980 - July 1981: Computer Scientist, Computer Corporation of America, Inc., Cambridge, MA. Leader of MULTIBASE Design Team: research in heterogeneous and distributed database management.
8. July 1980 - October 1980: Computer Scientist, Bolt, Beranek, and Newman, Inc., Cambridge, MA. Participated in product development of an Office Information System. Designed and Implemented its database management component.
9. July 1977 - June 1980: Research Assistant, University of California, Berkeley, CA. Conducted research on database design and schema translation.
10. July 1978 - Sep. 1978: Academic Associate, I.B.M. Research Laboratory, San Jose, CA. Conducted a performance evaluation of a prototype relational database system.
11. Oct. 1976 - June 1977: Teaching Assistant, University of California, Berkeley, Berkeley, CA. Conducted discussion sections in compiler construction and assembly language programming.
12. Sep. 1973 - June 1976: Time-Sharing Consultant, Cornell University, Ithaca, NY.
13. Summer 1976: Programmer/Analyst, Pfizer, Inc., New York, NY.
14. Summers 1973–5: Programmer/Analyst, City of New York, New York, NY.

Professional Activities:

1. Corporate Board Directorships:
Ubicom Corporation, Sunnyvale, CA, 2000-2004;
Alysis Technology (formerly known as IA Corporation, NASDAQ: ALYS), Emeryville, CA, 1998-2001;
Acquired by Pitney Bowes Corporation; NYSE: PBI);
Concentric Networks (NASDAQ: CNCX), San Jose, CA, 1999-2000. Acquired by Nextlink Corporation (Renamed XO Communications, NASDAQ: XOXO);
2. Technical Advisor Boards:
Ensim Corporation, Sunnyvale, CA, 1999-Present;
FastForward Networks, San Francisco, CA, 1998-2001 (Acquired by Inktomi; in turn acquired by Yahoo);
GlobArc, San Mateo, CA, 1999 (Acquired GeoCast, 1999, now defunct);
Metricom (NASDAQ: MCOM, delisted), Los Gatos, CA, 2000-2001;
Netboost, Mountain View, CA, 1998-1999 (Acquired Intel Corporation, 1999);
Packeteer (NASDAQ: PKTR), Cupertino, CA, 1996-2000, (IPO: 1999);
Proxinet, Emeryville, CA, 1999 (Acquired Puma Systems, 1999, NASDAQ: PUMA);
SkyFlow, Berkeley, CA, 2000-2002 (Winner, Haas Business School Business Plan Competition, 2000);
Verity (NASDAQ: VRTY), Sunnyvale, CA, 2000-2005 (Acquired Autonomy Corporation, 2006, NASDAQ: AUTN);
3. Member, Computer Systems and Telecommunications Board (CSTB), National Academy of Engineering, 2004-Present.
4. Member, United States Airforce Scientific Advisory Board, 1997-1999.
4. Member, Board of Directors, Computing Research Association, 1996-1998.
5. Member, Department of Defense JASON Study Group, 1995-1999.
6. Member, NSF CISE Advisor Board, 1995 - 1998.
7. Area Editor, ACM - Baltzer Mobile Networks (MONET) Journal.

8. Referee, IBM Systems Journal, A.C.M. Computing Surveys, A.C.M. Transactions on Computer Systems, A.C.M. Transactions on Database Systems, I.E.E.E. Transactions on Computers, I.E.E.E. Transactions on Computer-Aided Design, I.E.E.E. Transactions on Software Engineering, I.E.E.E. Transactions on Circuits and Systems, I.E.E.E. Design and Test Magazine, I.E.E.E. Software Magazine, Information Systems, N.S.F. Computer Science Section, N.S.F. Computer Engineering Section, Department of Energy, Prentice-Hall, Inc., Addison-Wesley, Inc., Macmillan, Inc.
9. Member, Technical Advisory Board, CAD Framework Initiative, 1988-1989.
10. Member, Defense Sciences Study Group, Institute for Defense Analysis, Alexandria, Va, 1987-1990.
11. Panelist, N.S.F. Computer Engineering Section, Research Initiation Grants Program, 1984-5. MIPS Division Advisory Committee, 1989-1992.
12. Associate Editor, *A.C.M. Computing Surveys*, 1982 -1985; *I.E.E.E. Technical Committee on Database Engineering Newsletter*, 1981 - 1984.
13. Guest Editor, *I.E.E.E. Transactions on Computers*, Special Issue on Architectural Support for Programming Languages and Operating Systems, September 1988;
I.E.E.E. Technical Committee on Database Engineering Newsletter, Special Issue on Design Database Management II, (June 1984);
I.E.E.E. Technical Committee on Database Engineering Newsletter, Special Issue on Design Database Management, (June 1982).
14. Session Organizer, "VLSI CAD Database Systems," Spring COMPCON Conference, San Francisco, CA, (March 1984).
15. Panel Organizer, "Reduced Instruction Set Computers: A Revolution in the Microprocessor Marketplace," IEEE International Solid State Circuits Conference, Anaheim, CA, (February 1986);
"Issues in Design Data Management," A.C.M. '82 Conference, Dallas, Texas, (October 1982);
16. General Committee Co-Chairman, Second ACM Mobile Computing and Networking Conference, Rye, NY, (November 1996);
17. Program Committee Chairman, Bodega Bay Workshop on Next Generation Storage Systems, Bodega Bay, CA, (May 1989);
International Symposium on Architectural Support for Programming Languages and Operating Systems, Palo Alto, CA, (September 1987).
18. Program Committee Member, IWSOS'07, Lake District, England, (September 2007);
Program Committee Member, ACM SIGCOMM Conference, Karlsruhe, Germany, 2003;
Program Committee Member, WOSBIS'98, Dallas, TX, (October 1998);
Symposium on Architectural Support for Programming Languages and Operating Systems, 1997;
WOSBIS'97, Budapest, Hungary, (October 1997);
WOSBIS'96, Rye, NY, (November 1996);
ACM Mobile Computing and Networking Conference, Berkeley, CA, (November 1995);
ACM Multimedia '95, San Francisco, CA, (November 1995);
International Symposium on Computer Architecture, San Diego, CA, (May 1993);
ASPLOS-5, Boston, MA, (October 1992);
Eighteenth Very Large Database Conference, Vancouver, BC, (August 1992);
A.C.M. SIGMOD Conference, San Diego, CA, (May 1992);
A.C.M. SIGMOD Conference, Portland, OR, (May 1989);
CalTech VLSI Conference, Pasadena, CA, (March 1989);
Transaction Machine Architecture Workshop, Lake Arrowhead, CA, (September 1988);
Second Conference on Computer-Supported Cooperative Work, Portland, OR, (Sept. 1988);
Fourteenth Very Large Database Conference, Long Beach, CA, (August 1988),
A.C.M. SIGMOD Conference, Chicago, IL, (May 1988);
A.C.M. SIGMOD Conference, San Francisco, CA, (May 1987);
IEEE International Solid State Circuits Conference, Anaheim, CA, (February 1986);
IEEE International Conference on Computer-Aided Design: ICCAD'85, Santa Clara, CA, (November 1985);
IEEE International Conference on Computer Design: VLSI in Computers'85, Port Chester, NY, (October 1985);
Eleventh Very Large Database Conference, Stockholm, Sweden, (August 1985);
A.C.M. SIGMOD Conference, Austin, TX, (May 1985);
Tenth Very Large Database Conference, Singapore, Malaysia, (August 1984);
A.C.M. SIGMOD Conference, San Jose, CA, (May 1983);

- A.C.M. SIGMOD Conference on Scientific and Engineering Databases, San Jose, CA, (May 1983);
A.C.M. SIGMOD Conference, Orlando, FL, (June 1982);
Seventh Very Large Database Conference, Cannes, France, (October 1981);
19. Referee, 23rd A.C.M./I.E.E.E. Design Automation Conference, Las Vegas, NV, (June 1986);
13th Intl. Symp. on Computer Architecture, Tokyo, Japan, (June 1986);
Hawaii International Conference on System Sciences, Honolulu, HI, (January 1985);
11th Intl. Symp. on Computer Architecture, Ann Arbor, MI, (June 1984);
MIT Conference on Advanced Research in VLSI, Cambridge, MA, (January 1984);
10th Intl. Symp. on Computer Architecture, Oslo, Norway, (September 1983);
IFIP '83 -- 9th World Computer Congress, Paris, France, 1983;
Second International Symposium on Distributed Databases, Berlin, West Germany, 1982;
Second International Conference on Databases: Improving Usability and Responsiveness, Jerusalem, Israel, (June 1982);
Fifth Very Large Database Conference, Rio de Janeiro, Brazil, (September 1979);
 20. Consultant, Microtechnology Corporation, Sunnyvale, CA, 1989 – 1992;
Teknekron Corporation, Berkeley, CA, 1988 – 1992;
Software Alliance, Inc., Berkeley, CA, 1988 – 1992;
Electronic Design Automation, Inc., Santa Clara, CA, 1986 – 1989;
Microelectronics and Computer Technology Corporation, Austin, TX, 1985;
United States Air Force, Wright-Patterson AFB, Dayton, OH, 1985 – 1987;
Texas Instruments Central Research Laboratories, Dallas, TX, 1985 – 1986;
Intermetrics, Inc., Bethesda, MD, 1984;
TMC, Ltd., Malsmeley, England, 1984;
Digital Equipment Corporation, Hudson, Massachusetts, 1983 – 1987;
Research Triangle Institute, Research Triangle Park, North Carolina, 1983;
Xerox Palo Alto Research Center, 1982 – 1985;
 21. Visiting Faculty Member, University of Washington/Northwest VLSI Consortium, 1983.

Research Interests:

Design and implementation of network-centric distributed systems; programmable networks;

Invited Colloquium and Panel Discussions:

RWTH-Aachen (2008), Lawrence Berkeley National Laboratory (2008), Cisco Green Symposium (2008), University of Wisconsin-Madison (2008), Wayne State University (2007), NEC Princeton Laboratory (2007), Arizona State University (2005), Universita della Svizzera Italiana (USI) Distinguished Lecture (2005), University of Texas Arlington Computer Science Department Distinguished Lecturer (2005), University of British Columbia Computer Science Department Distinguished Lecturer (2005), University of Kentucky Computer Science Distinguished Lecturer (2005), IBM Almaden Research Center Distinguished Lecturer (2004), Hanoi University of Technology (2004), SUNY Stony Brook Distinguished Lecturer (2004), IBM Research “Leaders in Computer Science” Lecturer (2004), Yale University Distinguished Lecturer (2004), Cray Lecturer University of Minnesota (2003), Claremont McKenna College (2000), Verity Corporation (2000), UMC Corporation (2000), NTT DoCoMo Research Laboratories (2000), BT Laboratories (2000), Ericsson Research Laboratories (2000), Technical University Berlin (1999), Free University Berlin (1999), ETH Zurich (1999), HRL (1999), University of Illinois (1999), EPF Lausanne (1999), Cal Alumni Society (1999), Netboost Corporation (1999), IACorporation (1999), University of Washington (1998), MIT (1998), Carnegie Mellon University (1998), Cal in the Afternoon (1998), University of North Carolina (1997), Hewlett Packard Laboratories (1996), University of California, Davis (1996), Georgia Institute of Technology (1996), Stanford University (1996), UCLA (1996), USC (1996), Marconi Centenary Seminar (1995), U. C. Board of Regents (1995), Norwegian Institute of Technology (1995), UC Davis (1995), ASPLOS VI Conference (1994), 3rd International PDIS Conference (1994), Carnegie Mellon University (1994), San Diego Supercomputer Center (1994), University of California, San Diego (1994), Rice University (1994), Cornell University (1993), SIGUCCS Conference (1993), StorageTek (1992), International Magnetic Recording Conference (1992), Vail Computer Elements Workshop (1992), Santa Clara University (1992), Carnegie Mellon University (1989), Sequent Computers, Inc., (1989), VLSI Circuits Conference (1989), Intel Scientific Computers, Inc. (1989), Ardent Computers, Inc. (1989), Dartmouth College (1989), IBM General Products Division (1989), Atherton Technologies, Inc. (1988), Princeton University (1988), Cornell University (1988), ViewLogic Corporation (1988), Massachusetts Institute of Technology (1988), Brown University (1988), VLSI Educators

Conference (1988), Hewlett-Packard Corporation (1988), University of Colorado, Boulder (1988), University of Wisconsin-Madison (1987), CRAI International Seminar on Advanced Data and Knowledge Base Systems (1987), Cambridge University Computer Laboratory (1987), University College London (1987), Imperial College London (1987), Hewlett-Packard Laboratories (1986), International Conference on Computer-Aided Design (1986), National Semiconductor Corporation (1986), Daisy Systems (1986), International Symposium on Computer Architecture (1986), ACM SIGMOD Conference (1986), Hewlett-Packard Corporation (1986), Apollo Domain Users Group (1986), IBM San Jose Research Laboratory (1985), Digital Equipment Corporation (1985), Control Data Corporation (1985), Sun Microsystems (1985), Hewlett-Packard Corporation (1985), Very Large Database Conference (1985), Lawrence Livermore Laboratories (1985), Carnegie-Mellon University (1985), Stanford University (1984), Naval Post Graduate School (1984), Texas Instruments (1984), Wang Institute (1984), Hewlett-Packard Laboratories (1984), NYU Symposium on New Directions for Database Systems (1984), Microelectronics and Computer Technology Corporation (1984), Digital Equipment Corporation (1983), Massachusetts Institute of Technology (1983), 20th Design Automation Conference (1983), ACM SIGMOD Conference on Engineering and Scientific Databases (1983), University of Washington (1983), Stanford University (1983), University of California, Berkeley (1983), Oregon Graduate School (1982), Tektronix Computer Research Laboratory (1982), Xerox Palo Alto Research Center (1982), Technion (1982), Weizmann Institute of Science (1982), Madison General Hospital (1982), A.C.M. SIGMOD Conference (1981), Fifth Berkeley Workshop on Distributed Data Management (1981), University of Toronto (1980), Harvard University (1980).

Contracts, Grants, and Equipment Awards:

1. Principal Investigator, "The Endeavour Project: Charting the Fluid Information Utility," Defense Advanced Research Projects Agency, (6/99-5/04).
2. Co-Principal Investigator with Eric Brewer (Principal Investigator), D. Culler, A. Joseph, "ProActive Services," Defense Advanced Research Project Agency, (6/98-5/01).
3. Principal Investigator with S. McCanne and E. Brewer, "MASH: Multimedia Architecture that Scales across Heterogeneous Environments," Defense Advanced Research Projects Agency, (9/96-8/99).
4. Principal Investigator with E. Brewer, "The Bay Area Research Wireless Access Network (BARWAN): Towards a Wireless Overlay Internetwork Architecture," Advanced Research Projects Agency, (9/95-8/98).
5. Co-Principal Investigator with D. Patterson and T. Anderson, "Roboline Storage: Low Latency, High Capacity Storage Systems," Advanced Research Projects Agency, (5/93-5/96).
6. Co-Principal Investigator with D. Ferrari, Department of Energy, "Disk Arrays on the Gigabit Testbed," (8/92-7/94).
7. Co-Principal Investigator with M. Stonebraker and C. Gautier, National Science Foundation, "Scientific Data Management and Massive Storage," (8/92-7/95).
8. Principal Investigator, National Science Foundation, "Process and Project Management for VLSI Design Environments," (8/90-7/93).
9. Principal Investigator, National Science Foundation, "Workshop on Next Generation Storage Systems," (4/89-9/89).
10. Principal Investigator, National Science Foundation, "Proposal to Develop a New Curriculum Based on Rapid Prototyping Technology for Undergraduate Hardware Design Courses," (9/89-8/90).
11. Principal Investigator, National Aeronautics and Space Agency and Defense Advanced Research Projects Agency, "Diskless Supercomputers: Scalable, Reliable I/O for the Tera-Op Technology Base," (9/89-12/92).
12. Co-Principal Investigator, State of California MICRO Program, "VLSI Architectures for Symbolic Processing," in conjunction with National Semiconductor, Inc., and Texas Instruments, Inc., (7/88 - 6/89).
13. Co-Principal Investigator, State of California MICRO Program, "Redundant Arrays of Inexpensive Disks (RAID)", in conjunction with SUN Microsystems, Inc., (7/88 - 6/90).
14. Co-Principal Investigator, National Science Foundation, "Design and Implementation of a Shared Memory Multiprocessor Database Machine," (4/88 - 3/91).
15. Co-Principal Investigator, State of California MICRO Program, "VLSI Architectures for Symbolic Processing," in conjunction with Honeywell, Inc., National Semiconductor, Inc., Phillips/Signetics, Inc., Lattice Logic, Inc., Cypress Semiconductor, Inc., and Hewlett-Packard, Inc., (8/87 - 7/88).
16. Principal Investigator, National Science Foundation, "Inheritance, Change, and Constraint Propagation in a Version Server for Computer-Aided Design Data," (9/87 - 8/90).
17. Co-Principal Investigator, State of California MICRO Program, "VLSI Architectures for Symbolic Processing," in conjunction with Honeywell, Inc., Phillips/Signetics, Inc., and Xerox Corp., (8/86 - 7/87).

18. Co-Principal Investigator, State of California MICRO Program, "VLSI Architectures for Symbolic Processing," in conjunction with Texas Instruments, Inc., (8/85 - 7/86).
19. Faculty Researcher, "Research in Rapid Prototyping Using VLSI," Defense Advanced Research Projects Agency Contract, (8/85 - 7/88).
20. Co-Principal Investigator, "SPUR: Symbolic Processing Using Riscs," Defense Advanced Research Projects Agency Contract, (1/85 - 9/88).
21. Faculty Development Award, International Business Machines, Inc., (7/84 - 6/86).
22. Industrial Gift, International Business Machines, Inc., (7/89 - 6/90).
23. Industrial Gift, Bell Northern Research, (7/87 -- 6/88).
24. Industrial Gift, Digital Equipment Corporation, (7/87 -- 6/88).
25. Industrial Gift, Microelectronics and Computer Technology Corporation, (7/86 - 6/89).
26. Industrial Gift, Xerox Corporation, (7/84 - 6/86).
27. Industrial Gift, AT&T Information Systems, (7/84 - 6/86).
28. Industrial Gift, National Semiconductor Corporation, (7/84 - 6/85).
29. Co-Principal Investigator, State of California MICRO Program, "A Network of LISP Workstations for Intelligent Computer-Aided Design Applications," in conjunction with Xerox Corporation, (9/84 - 8/85).
30. Principal Investigator, Xerox University Gifts Program, "Computer Research Workstations," (9/84 - 8/85).
31. Principal Investigator, National Science Foundation Grant No. ECS-8403004, "Controlled Sharing, Consistency Maintenance, and Recovery of Design Objects," (8/84 - 12/87).
32. Principal Investigator, National Science Foundation Grant No. DCR-8406123, "A Data Management System for VLSI Design Data," Transfer of MCS-8201860, (5/84 - 6/85).
33. Principal Investigator, National Science Foundation Grant No. MCS-8201860, "A Data Management System for VLSI Design Data," (9/82 - 2/85).
34. Co-Principal Investigator, Hewlett-Packard/University of Wisconsin-Madison Research Partnership in Computer Science, "VLSI Computer-Aided Design in an Environment of Loosely-Coupled Workstations," (7/82 - 6/83).
35. Co-Principal Investigator, National Science Foundation Grant MCS-8304535, "Instrumentation and Equipment to Support the Design, Prototyping, and Debugging of VLSI Systems," (6/83 - 5/84).

Students Supervised

Masters Students

1. Kimman Tong Chang, "Implementation of Mechanisms for Dispersed Database Recovery," M. S. Plan II, (August 1984).
2. Shaun P. Whalen, "CMOS Adder Designs for High Performance Microprocessors," M. S. Plan II, (August 1984).
3. Ho-ming Leung, "Custom LSI Broadside Chip Tester using the Design Frame," M. S. Plan II, (August 1984).
4. Richard G. Brown, "Implementation of a One-Chip Scan-Based Test System for the MultiBus Design Frame," M. S. Plan II, (December 1984).
5. John Keller, "Power and Ground Requirements for a High Speed 32 Bit Computer Chip Set," M. S. Plan II, (December 1985).
6. Trudy Stetzler, "Clock Circuit Design Considerations for a High Performance VLSI Processor," M. S. Plan II, (December 1985).
7. Fred Obermeier, "PLA Driver Selection: An Analytic Approach," M.S. Plan II, (December 1985).
8. Sinohe Villalpando, "SCMOS 32-Bit Adders," M.S. Plan II, (May 1986).
9. Rhajiv Bhateja, "A Validation System for Computer Aided Design," M.S. Plan II, (December 1986).
10. Glenn D. Adams, "Functional Specification and Simulation of a Floating Point Co-Processor for SPUR," M.S. Plan II, (December 1986).
11. Walter Beach, "Diagnostic Testing of the SPUR Computer System," M.S. Plan II, (December 1986).
12. Sharad Malik, "Combining Multi-Level Decomposition and Topological Partitioning for PLAs," M.S. Plan II, (May 1987).
13. David Gedye, "Browsing the Tangled Web," M.S. Plan II, (May 1988).
14. Alexander Saldanha, "PLA Optimization Using Output Encodings," M.S. Plan II, (December 1988).
15. Martin E. Schulze, "Considerations in the Design of a RAID Prototype," M.S. Plan II, (December 1988).
16. Valerie D. King, "Task Specification and Management in the VLSI Design Process," M.S. Plan II, (December 1989).
17. E. K. Lee, "Implementation of Parity Striping in a RAID Prototype," M.S. Plan II, (May 1990).

18. A. L. Chervenak, "Performance Evaluation of a RAID Prototype," M.S. Plan II, (May 1990).
19. Steven Strange, "Analysis of Long Term UNIX File Access Patterns for Application to Automatic File Migration Strategies," M.S. Plan II, (December 1991).
20. Srimi Seshan, "Interfacing a High Performance Disk Array File Server to a Gigabit LAN," M.S. Plan II, (May 1993).
21. Christopher Ruemmler, "Low-Level Disk Access Patterns in a 4.2 BSD Derived File System," Plan II, (May 1993).
22. Kimberly Keeton, "The Evaluation of Video Layout Strategies in a High-Performance File Server," M.S. Plan II, (May 1994).
23. Hari Balakrishnan, "Improving TCP/IP Performance over Wireless Networks," M.S. Plan II, (December 1995).
24. Elan Amir, "A Video Gateway Architecture," M.S. Plan II, (December 1995).
25. Mark Stemm, "Vertical Handoffs in Wireless Overlay Networks," M. S. Plan II, (May 1996).
26. Giao Nguyen, "A Trace-Based Approach for Modeling Wireless Channel Behavior," M.S. Plan II, (December 1996).
27. Angela Schuett, "Helical Scan Reliability: Lessons Learned from the Exabyte 8500," M.S. Plan II, (December 1996).
28. Tao Ye, "Support for Mobile Applications in Wide Area Wireless Networks," M.S. Plan II, (December 1997).
29. Helen Wang, "Policy-Driven Handoffs Across Heterogeneous Wireless Networks," M.S. Plan II, (December 1998).
30. Bhaskar Raman, "Personal Mobility in the ICEBERG Integrated Communication Network," M.S. Plan II, (May 1999).
31. Sreedhar Mukkamalla, "A Scalable Framework for Secure Multicast," M.S. Plan II, (May 1999).
32. Xia Hong, "Personal Activity Coordinator: A Coordination Layer for Independent Services," M.S. Plan II, (December 1999).
33. Zhuoqing Morley Mao, "Fault-tolerant, Scalable, Wide-Area Internet Service Composition," M.S. Plan II, (December 2000).
34. Sharad Agarwal, "Power Sensitive Routing in Ad Hoc Wireless Networks," M.S. Plan II, (December 2000).
35. Shelley Zhuang, "Bayeux: An Architecture for Scalable and Fault-tolerant Wide-area Data Dissemination," M.S. Plan II, (December 2001).
36. Lakshminarayanan Subramanian, "On Inferring the Geographic Properties of the Internet," M.S. Plan II, (May 2002).
37. Fang Yu, "Study of the Restoration Path Block Problem in Optical Networks," M.S. Plan II, (December 2002).
38. Mukund Seshadri, M.S. Plan II, "A Scalable Architecture for Broadcast Federation," (December 2002).
39. Weidong Cui, "Backup Path Allocation Based on a Correlated Link Failure Probability Model in Overlay Networks," M.S. Plan II, (May 2003).
40. George Porter, "Traffic Matrix Estimation for Low-loss Routing in Hybrid Networks," M.S. Plan II, (May 2003).
41. Sridhar Machiraju, "A Scalable and Robust Solution for Bandwidth Allocations," M.S. Plan II, (May 2003).
42. Matt Caesar, "Root Cause Analysis of BGP Dynamics," M.S. Plan II, (December 2004).
43. Ana Sanz Merino, "Secure Authentication System for Public WLAN Roaming," M.S. Plan II, (May 2005).
44. Allen Lee, "Virtualized Network Emulation on FPGAs: A First Design and Overhead Analysis," M.S. Plan II, (May 2008).
45. Peter Lau, "Virtualized Network Emulation on FPGAs: A First Design and Scaling Analysis," M.S. Plan II, (May 2008).

Doctoral Students

1. Gaetano Borriello, "A New Interface Specification Methodology and its Application to Transducer Synthesis", Ph.D., (December 1988). Professor, Department of Computer Science, University of Washington, Seattle, WA. National Science Foundation Presidential Young Investigator.
2. Susan J. Eggers, "Simulation Analysis of Data Sharing in Shared Memory Multiprocessors", Ph.D., (May 1989). Professor, Department of Computer Science, University of Washington, Seattle, WA. National Science Foundation Presidential Young Investigator.
3. Fred W. Obermeier, "An Open Architecture for Improving VLSI Circuit Performance," Ph.D., (May 1989). Founder, Chairman, and CTO, Z-Circuit Corporation, Mountain View, CA.

4. Ellis E-Li Chang, "Effective Clustering and Buffering in an Object-Oriented DBMS", Ph.D., (December 1989). Vice President and General Manager of Taiwan Operations, Yield Management Software Division, KLA-Tencor Corporation, Milpitas, CA.
5. David A. Wood, "Virtual Memory Mechanisms for Shared Memory Multiprocessors," Ph.D., (May 1990). Professor, Computer Sciences Department, University of Wisconsin-Madison, Madison, WI. National Science Foundation Presidential Young Investigator.
6. Tzi-cker F. Chiueh, "History Management Mechanisms for Computer-Aided Design Environments," Ph.D., (December 1992). Professor, Computer Science Department, State University of New York, Stony Brook, NY.
7. Edward K. Lee, "Performance Modeling and Analysis of Disk Arrays," Ph.D., (December 1993). Various Start-up companies, San Jose, CA.
8. Ann L. Chervenak, "Tertiary Storage: An Evaluation of New Applications," Ph.D., (December 1994), Member of Technical Staff, Information Sciences Institute, University of Southern California, Marina del Rey, Los Angeles, CA.
9. Mario Silva, "Active Documentation for VLSI Designs," Ph.D., (December 1994), Associate Professor, Departamento de Informatica, Universidade de Lisboa, Lisbon, Portugal.
10. Ethan M. Miller, "Storage Hierarchy Management for Scientific Computing," Ph.D., (May 1995), Associate Professor, Computer Science Department, University of California, Santa Cruz, CA.
11. Srimi Seshan, "Low Latency Handoff in Mobile Networks," Ph.D., (December 1995), Associate Professor, School of Computer Science, Carnegie Mellon University, Pittsburgh, PA.
12. Elan Amir, "An Agent-Based Approach to Real-Time Multimedia Transmission over Heterogeneous Environments," Ph.D., (May 1998). Jointly supervised with Professor Steven McCanne. Chief Executive Officer, Bivio Corporation, Pleasanton, CA.
13. Hari Balakrishnan, Ph.D., "Challenges to Reliable Data Transport over Heterogeneous Wireless Networks," (August 1998). Associate Professor, Massachusetts Institute of Technology, Cambridge, MA. Winner, ACM Doctoral Dissertation Award, 1998.
14. Venkat Padmanabhan, Ph.D., "Addressing the Challenges of Web Data Transport," (December 1998). Member of Technical Staff, Microsoft Research, Redmond, CA.
15. Mark Stemm, Ph.D., "A Network Measurement Architecture for Adaptive Applications," (December 1999), Member of Technical Staff, Yahoo! Corporation, Sunnyvale, CA.
16. Tom Henderson, Ph.D., "Networking over Next Generation Satellite Systems," (December 1999). Member of Technical Staff, Boeing Skunk Works, Seattle, WA.
17. Reiner Ludwig, Dr. rer. Nat., "Eliminating Inefficient Cross-Layer Interactions in Wireless Networking," RWTH-Aachen, Co-advised with Prof. Dr. rer. Nat. Otto Spaniol, (April 2000). Technical Expert, Ericsson Radio Systems, Aachen, Germany.
18. Tina Wong, Ph.D., "Multicast Forwarding and Application State Scalability in the Internet," (December 2000). Systems Scientist, Carnegie Mellon University CyLab, Pittsburgh, PA.
19. Angela Schuett, Ph.D., "Active Services for Archive Applications," (December 2000). Member of Technical Staff, National Security Agency, Fort Meade, MD.
20. Chee-Nee Chuah, Ph.D., "A Scalable Framework for IP-Network Resource Provisioning Through Aggregation and Hierarchical Control," (December 2001). Assistant Professor, Electrical and Computer Engineering Department, University of California, Davis, 2002-Present.
21. Helen Wang, Ph.D., "Scalable Robust Wide-Area Architecture for Unified Communications," (December 2001). Member of Technical Staff, Microsoft Research, Redmond, WA, 2001-Present.
22. Todd Hodes, Ph.D., "Discovery and Adaptation for Location-Based Services," (December 2002), Senior Scientist, WaveMarket Corporation, Emeryville, CA, 2002-Present.
23. Bhaskar Raman, Ph.D., "An Architecture for Availability and Performance in Wide-Area Service Composition," (December 2002), Assistant Professor of Computer Science, Indian Institute of Technology, Kanpur, India, 2003-Present.
24. Jimmy Shih, Ph.D., "Applying Congestion Pricing at Access Points for Voice and Data Traffic," (May 2003). Member of Technical Staff, Mobility Products, Google, Mountain View, CA. (2005-Present).
25. Yan Chen, Ph.D., "Towards a Scalable, Adaptive and Network-Aware Content Distribution Network," (December 2003), Assistant Professor, Computer Science Department, Northwestern University, Evanston, IL, 2003-Present.
26. Z. Morley Mao, Ph.D., "Solving the Interdomain Routing Problem—Understanding Interdomain Routing Dynamics," (December 2003), Assistant Professor, Computer Science Department, University of Michigan, Ann Arbor, MI, 2003-Present.

27. Sharad Agarwal, Ph.D., "Toward Interdomain Traffic Engineering for Availability and Performance," (August 2004), Member of Technical Staff, Microsoft Research, Redmond, WA, 2004-Present.
28. Shelley Zhuang, Ph.D., "Towards Robust Overlay Networks," (August 2005), Draper Fisher Jurvetson Ventures Group, Associate, Menlo Park, CA, 2005-Present. Co-advised with Prof. Ion Stoica.
29. Mel Tsai, Ph.D., "RouterVM: A Practical, High-Level Configuration Interface for Next Generation Routers and Appliances," (December 2005), Member Technical Staff, Enterprise Networking Division, Cisco Systems, Milpitas, CA, 2005-Present.
30. Adam Costello, Ph.D., "Randomized Forwarding for Fault Tolerance in Peer-to-Peer Networks," (December 2005), Member of Technical Staff, Google, Kirkland, WA, 2004-Present.
31. Lakshmi Subramanian, Ph.D., "Decentralized Security Mechanisms for Internet Routing," (December 2005), Intel Berkeley Research Laboratory (Postdoc 2005-2006) and Computer Science Department, New York University, New York, NY, 2006-Present. Co-advised with Profs. Ion Stoica and Scott Shenker.
32. Sridhar Machiraju, Ph.D., "Theory and Practice of Non-Intrusive Active Network Measurement," (May 2006). Member Technical Staff, Sprint Advanced Technology Laboratory, Burlingame, CA, 2005-Present.
33. Weidong Cui, Ph.D., "GQ: A System to Catch Worms in a Quarter Million Places," (December 2006). Member Technical Staff, Microsoft Research, Redmond, WA, 2006-Present.
34. Fang Yu, Ph.D., "Multi-match Classification with TCAMs," (December 2006). Member of Technical Staff, Microsoft Research Silicon Valley, Mountain View, CA, 2006-Present.
35. Yin Li, Ph.D., "Automatic Action Advisor for Storage System Performance Management," (December 2006). Member of Technical Staff, Google Corporation, Kirkland, WA, 2006-Present.
36. Tal Lavian, Ph.D., "The Lambda Data Grid: A New Architecture for the Optical Internet," (December 2006), Independent Consultant, 2007-Present.
37. Mukund Seshadri, Ph.D., "Towards Efficient Distribution of High-Volume Content," (December 2006). Member of Technical Staff, Sprint Advanced Technology Laboratory, Burlingame, CA, 2006-Present.
38. Matt Caesar, Ph.D., "Identity Based Routing," (December 2007). Co-advised with Ion Stoica. Postdoctoral Researcher, Princeton University (2007-2008). Assistant Professor, Department of Computer Science, Univ. of Illinois, Urbana Champaign, (2008-Present).
39. George Porter, Ph.D., "Improving Distributed Application Reliability with End-to-End Datapath Tracing," (May 2008), Member of Technical Staff, Sun Microsystems.

A. Refereed Publications

Archival Journals

1. Katz, R. H., E. Wong, "Decompilation of CODASYL DML into Relational Queries," *A.C.M. Transactions on Database Systems*, V 7, N 1, (March 1982).
2. Katz, R. H., E. Wong, "Resolving Conflicts in Global Design Through Replication," *A.C.M. Transactions on Database Systems*, V 8, N 1, (March 1983).
3. Katz, R. H., S. Weiss, "A Standard Design Frame for VLSI Circuit Prototyping," *Journal of VLSI and Computer Systems*, Computer Science Press, V 1, N 1, (August 1983).
4. Katz, R. H., "Managing the Chip Design Database," *I.E.E.E. Computer Magazine*, Special Issue on New VLSI Design Tools, V 16, N 12, (December 1983).
5. Katz, R. H., T. J. Lehman, "Database Support for Versions and Alternatives of Large Design Files," *I.E.E.E. Transactions on Software Engineering*, V SE-10, N 3, (March 1984). Also appeared as "Storage Structures for Versions and Alternatives," University of Wisconsin Computer Sciences Technical Report #479, (July 1982).
6. Katz, R. H., W. Scacchi, P. Subrahmanyam, "Development Environments for VLSI and Software," *Journal of Software and Systems*, V 4, N 1, (March 1984). Also appeared in Proceedings I.E.E.E. Workshop on the Intersection of VLSI and Software Engineering, Rye, NY, (October 1982).
7. Katz, R. H., "Computer-Aided Design Databases: A Tutorial," *I.E.E.E. Design and Test Magazine*, V 2, N 1, (February 1985).
8. Borriello, G., R. H. Katz, A. Bell, L. Conway, "VLSI Design 'By the Numbers'," *I.E.E.E. Spectrum*, V 22, N 2, (February 1985).
9. Chou, H-T, D. J. DeWitt, R. H. Katz, A. C. Klug, "The Design and Implementation of the Wisconsin Storage System," *Software—Practice and Experience*, V 15, N 10, (October 1985).
10. Hill, M. D., S. J. Eggers, J. R. Larus, G. S. Taylor, G. Adams, B. K. Bose, G. A. Gibson, P. M. Hansen, J. Keller, S. I. Kong, C. G. Lee, D. Lee, J. M. Pendleton, S. A. Ritchie, D. A. Wood, B. G. Zorn, P. N. Hilfinger, D. A. Hodges, R. H. Katz, J. K. Ousterhout, D. A. Patterson, "Design Decisions in SPUR: A VLSI Multiprocessor Workstation," *I.E.E.E. Computer Magazine*, V 19, N 11, (November 1986).

11. Craig, G. L., J. R. Goodman, R. H. Katz, A. R. Pleszkun, K. Ramachandran, J. Sayah, J. E. Smith, "PIPE: A High Performance VLSI Processor Implementation," *Journal of VLSI and Computer Systems*, Computer Science Press, V2, N 1-2, (1987).
12. Katz, R. H., R. Bhateja, E. Chang, D. Gedye, V. Trijanto, "Design Version Management," *I.E.E.E. Design and Test Magazine*, V 4, N 1, (February 1987).
13. Jeong, D. K., G. Borriello, D. A. Hodges, R. H. Katz, "Design of PLL-Based Clock Generation Circuits," *I.E.E.E. Journal of Solid State Circuits*, V SC-22, N 2, (April 1987).
14. E. Chang, D. Gedye, R. H. Katz, "The Design and Implementation of a Version Server for Computer-Aided Design Data," *Software — Practice and Experience*, V. 19, N. 3, (March 1989).
15. D. Lee, S. Kong, M. Hill, G. Taylor, D. A. Hodges, R. H. Katz, D. A. Patterson, "A VLSI Chip Set for a Multiprocessor Workstation - Part I: A RISC Microprocessor with Coprocessor Interface and Support for Symbolic Processing," *Journal of Solid State Circuits*, V. 24, N. 6, (December 1989).
16. D. K. Jeong, D. A. Wood, G. A. Gibson, S. Eggers, W. Beach, D. A. Hodges, R. H. Katz, D. A. Patterson, "A VLSI Chip Set for a Multiprocessor Workstation - Part II: A Memory Management Unit and Cache Controller," *Journal of Solid State Circuits*, V. 24, N. 6, (December 1989).
17. R. H. Katz, G. A. Gibson, D. A. Patterson, "Trends in High Performance Disk Systems," *Proceedings of the IEEE*, Special Issue on Supercomputers, (December 1989), pp. 1842-1858. Reprinted in H. Jin, T. Cortes, R. Buyya (eds.), *High Performance Mass Storage and Parallel I/O: Technologies and Applications*, IEEE & Wiley Press, ISBN: 0-471-20809-4, New York, USA, 2001, pp. 15-34.
18. R. H. Katz, J. L. Hennessy, "High Performance Microprocessor Architectures," *Journal of High Speed Electronics*, V. 1, N. 1, (March 1990), pp. 1-19.
19. D. A. Wood, G. A. Gibson, R. H. Katz, "Verifying a Multiprocessor Cache Controller Using Random Case Generation," *I.E.E.E. Design and Test Magazine*, (August 1990), pp. 13-25.
20. E. Chang, R. H. Katz, "Inheritance in CAD Databases: Semantics and Implementation Issues," *CAD Journal*, Special Issue on CAD Databases, V 22, N 8, (October 1990), pp. 489-499.
21. R. H. Katz, "Towards a Unified Framework for Version Modeling," *ACM Computing Surveys*, V 22, N 4, (December 1990), pp. 375 - 408.
22. D. K. Lee, R. H. Katz, "Using Cache Mechanisms to Exploit Non-refreshing DRAMs for On-chip Memory," *IEEE Journal of Solid State Circuits*, V. 26, N. 4, (April 1991), pp. 657 - 661.
23. R. H. Katz, "High Performance Network- and Channel-Attached Storage," *Proceedings of the I.E.E.E.*, V. 80, N. 8, (August 1992).
24. R. H. Katz, W. Hong, "The Performance of Disk Arrays in Shared Memory Database Machines," *Journal of Parallel and Distributed Databases*, V. 1, N. 2, (April 1993).
25. E. K. Lee, R. H. Katz, "The Performance of Parity Placement in Disk Arrays," *IEEE Transactions on Computers*, V 42, N 6, (June 1993), pp. 651-664. Reprinted in H. Jin, T. Cortes, R. Buyya (eds.), *High Performance Mass Storage and Parallel I/O: Technologies and Applications*, IEEE & Wiley Press, ISBN: 0-471-20809-4, New York, USA, 2001, pp. 35-54.
26. T. F. Chiueh, R. H. Katz, "A History Approach to Automatic Metadata Task Management," *IEEE Transactions on Knowledge and Database Engineering*, V 5, N 6, (December 1993), pp. 118-121.
27. R. H. Katz, "Adaptation and Mobility in Wireless Information Systems," *IEEE Personal Communications Magazine*, V 1, N 1, (First Quarter, 1994), pp. 6-17. Selected to be among the first papers to appear in *IEEE Communications Surveys*, an on-line journal (<http://www.ieee.org/comsoc/surveys.html>), (March 1996). Selected as one of ten "outstanding articles" to be reprinted in *IEEE Communications Magazine* Special IEEE Communications Society 50th Anniversary Issue, (May 2002), pp. 102-115.
28. G. Gibson, L. Hellerstein, R. Karp, R. Katz, D. Patterson, "Coding Techniques for Handling Failures in Large Disk Arrays," *Algorithmica*, V 12, (September/October 1994), pp. 182-208. Reprinted in H. Jin, T. Cortes, R. Buyya (eds.), *High Performance Mass Storage and Parallel I/O: Technologies and Applications*, IEEE & Wiley Press, ISBN: 0-471-20809-4, New York, USA, 2001, pp. 49-160.
29. P. M. Chen, G. A. Gibson, R. H. Katz, E. K. Lee, D. A. Patterson, "Disk Arrays: High Performance Parallel Disk Organizations," *ACM Computing Surveys*, (June 1994), pp. 145-185. Also appeared in *CMG Transactions*, Issue 89/90, Summer/Fall 1995, pp. 21-52.
30. P. M. Chen, E. K. Lee, A. L. Drapeau, K. Lutz, E. L. Miller, S. Seshan, K. Shirriff, D. A. Patterson, R. H. Katz, "Performance and Design Evaluation of the RAID-II Storage Server," *Journal of Parallel and Distributed Databases*, V2, (1994), pp. 243-260.
31. K. Keeton, R. H. Katz, "The Evaluation of Video Layout Strategies in a High Bandwidth File Server," *Multimedia Systems*, V3, (1995), pp. 43-52.

32. H. Balakrishnan, S. Seshan, R. H. Katz, "Reliable Transport and Handoff Protocols for Cellular Wireless Networks," *ACM Wireless Networks Journal*, V 1, N 3, (December 1995), pp. 469-482.
33. S. Narayanaswamy, S. Seshan, E. Brewer, R. Brodersen, F. Burghardt, A. Burstein, Y-C Chang, A. Fox, J. Gilbert, R. Han, R. Katz, A. Long, D. Messerschmitt, J. Rabaey, "Application and Network Support for InfoPad," *IEEE Personal Communications Magazine*, V 3, N 2, (April 1996), pp. 4-17.
34. S. Seshan, H. Balakrishnan, R. H. Katz, "Handoffs in Cellular Wireless Networks: The Daedalus Implementation and Experience," *Wireless Personal Communications*, Kluwer Academic Publishers, V 4, N 2, (March 1997), pp. 141-162.
35. E. L. Miller, R. H. Katz, "RAMA: An Easy-to-Use, High Performance Parallel File System," *Parallel Computing*, N 23, V 4, (1997), pp. 419-446.
36. M. Stemm, R. H. Katz, "Measuring and Reducing Energy Consumption of Network Interfaces in Hand-Held Devices," *IEICE Transactions on Fundamentals of Electronics, Communications, and Computer Science*, Special Issue on Mobile Computing, V. E 80-B, No. 8, (August 1997), pp. 1125-1131.
37. H. Balakrishnan, V. Padmanabhan, S. Seshan, R. H. Katz, "A Comparison of Mechanisms for Improving TCP Performance over Wireless Links," *ACM Transactions on Networking*, V5, N 6, (December 1997), pp. 756-769. Also appeared in D. Milojicic, F. Douglis, R. Wheeler, eds., *Mobility: Processes, Computers, and Agents*, Addison Wesley Longman, Reading, MA, 1999, pp. 401-417.
38. E. Brewer, R. H. Katz, E. Amir, H. Balakrishnan, Y. Chawathe, A. Fox, S. Gribble, T. Hodes, G. Nguyen, V. Padmanabhan, M. Stemm, S. Seshan, T. Henderson, "A Network Architecture for Heterogeneous Mobile Computing," *IEEE Personal Communications Magazine*, (October 1998), pp. 8-24.
39. M. Stemm, R. H. Katz, "Vertical Handoffs in Wireless Overlay Networks," *ACM/Baltzer Mobile Networking and Applications (MONET)*, Special Issue on "Mobile Networking in the Internet," V 3, N 4, (January 1999), pp. 319-334.
40. T. Henderson, R. H. Katz, "Transport Protocols for Internet-Compatible Satellite Networks," *IEEE Journal on Selected Areas in Communications*, Special Issue on Direct-to-User Satellite Systems and Technologies for Ka Band and Beyond, V 17, N 2, (February 1999), pp. 326-344.
41. S. McCanne, E. Brewer, R. H. Katz, E. Amir, Y. Chawathe, T. Hodes, K. Mayer-Patel, S. Raman, C. Romer, A. Schuett, A. Swann, T-L Tung, T. Wong, K. Wright, "MASH: Enabling Scalable Multipoint Collaboration," *ACM Computing Surveys*, V 31, N 2, (June 1999). Electronic Edition: <http://www.acm.org/pubs/citations/journals/surveys/1999-31-2es/a2-mccanne/>.
42. H. Balakrishnan, V. Padmanabhan, R. H. Katz, "The Effects of Asymmetry on TCP Performance over Wide-Area Wireless Networks," *ACM/Balzer Mobile Networking and Applications (MONET)*, Special Issue on Mobile Ad-Hoc Networking, V 4, N. 3, (October 1999), pp. 219-241.
43. T. Hodes, R. H. Katz, "Composable Ad-Hoc Location-Based Services for Heterogeneous Mobile Clients," *ACM Wireless Networks Journal*, Special Issue on Mobile Computing, V 5, N 5, (November 1999), pp. 411-427.
44. B. Raman, H. Wang, J. Shih, R. H. Katz, A. Joseph, "The ICEBERG Project: Defining the IP and Telecomm Intersection," *IT Professional*, V 1, N 2, (November/December 1999), pp. 22-29.
45. R. Ludwig, R. H. Katz, "The Eifel Algorithm: Making TCP Robust Against Spurious Retransmissions," *Computer Communications Review*, V. 30, N. 1, (January 2000), pp. 30-36. Electronic Edition: <http://www.acm.org/sigcomm/ccr/archive/2000/jan00/ccr-200001-ludwig.html>.
46. H. Wang, B. Raman, C. Chuah, R. Biswas, R. Gummadi, B. Hohlt, X. Hong, E. Kiciman, Z. Mao, J. Shih, L. Subramanian, B. Zhao, A. Joseph, R. H. Katz, "ICEBERG: An Internet Core Network Architecture for Integrated Communications," *IEEE Personal Communications Magazine*, V. 7, N. 4, (August 2000), pp. 10-19.
47. J. M. Kahn, R. H. Katz, K. S. J. Pister, "Emerging Challenges: Mobile Networking for Smart Dust," *Journal of Communications and Networks*, V. 2, N. 3, (September 2000), pp. 188-196.
48. S. D. Gribble, M. Welsh, R. von Behren, E. A. Brewer, D. Culler, N. Borisov, S. Czerwinski, R. Gummadi, J. Hill, A. Joseph, R. H. Katz, Z. M. Mao, S. Ross, B. Zhao, "The Ninja Architecture for Robust Internet-Scale Systems and Services," *Journal of Computer Networks, Special Issue on Pervasive Computing*, V 35, N 4, (March 2001), pp. 473-497. Best Paper Award.
49. Z. M. Mao, R. H. Katz, "Achieving Service Portability Using Self-Adaptive Data Paths," *IEEE Communications Magazine*, (January 2002), pp. 108-114.
50. T. Wong, T. Henderson, R. H. Katz, "Tunable Reliable Multicast for Periodic Information Dissemination," *ACM/Balzer Mobile Networking and Applications (MONET)*, Special Issue on Satellite-Based Information Systems, V. 7, N. 1, (January 2002), pp. 21-36.

51. T. Hodes, S. Czerwinsky, B. Zhao, A. Joseph, R. H. Katz, "An Architecture for a Secure Service Discovery Service," *ACM/Balzer Wireless Networking (WINET) Journal*, V. 8, N. 2/3, (March-May 2002), pp. 213-230.
52. R. Ludwig, A. Konrad, A. Joseph, R. Katz, "Optimizing the End-to-End Performance of Reliable Flows over Wireless Links," *ACM/Balzer Wireless Networking (WINET) Journal*, V. 8, N. 2/3. (March-May 2002), pp. 289-300.
53. L. Subramanian, I. Stoica, H. Balakrishnan, R. H. Katz, "OverQOS: Offering Internet QOS using Overlays," *Computer Communications Review*, V. 33, N. 1, (January 2003), pp. 11-16.
54. M. Ahmed, S. Krishnamurty, R. H. Katz, S. Dao, "Trajectory Control of Mobile Gateways for Range Extension in Ad Hoc Networks," *Computer Networks*, V. 39, N. 6, (August 2003), pp. 809-825.
55. Y. Chen, L. Qiu, W. Chen, L. Nguyen, R. H. Katz, "Efficient and Adaptive Web Replication Using Content Clustering," *IEEE Journal on Selected Areas of Communications (JSAC) Special Issue in Internet and WWW Measurement, Mapping, and Modeling*, V. 21, N. 6, (August 2003), pp. 979-994.
56. B. Raman, R. Katz, "An Architecture for Highly Available Wide-Area Service Composition," *Computer Communications Journal*, Special Issue on "Recent Advances in Communications Networks," V. 26, N. 15, (September 2003), pp. 1727-1740.
57. C-N Chuah, L. Subramanian, R. H. Katz, "DCAP: Detecting Malicious Flows via Collaborative Aggregate Policing," *ACM Computer Communications Review*, V. 33, N. 5, (October 2003), pp. 5-18.
58. F. Yu, R. H. Katz, T. V. Lakshman, "Efficient Multi-Match Packet Classification and Lookup with TCAM," *IEEE MICRO Special Hot Interconnects Issue*, (January/February 2005), pp. 50-59.
59. A. Merino, Y. Matsunaga, M. Shah, T. Suzuki, R. H. Katz, "Secure Authentication System for Public WLAN Roaming," *ACM/Balzer Mobile Networking and Applications (MONET)*, Special Issue on Wireless LANs and Hotspot Networks, V. 10, N. 3, (June 2005), pp. 355-370.
60. S. Zhuang, K. Lai, I. Stoica, R. Katz, S. Shenker, "Host Mobility Using an Internet Indirection Infrastructure," *ACM/Balzer Wireless Networking (WINET) Journal*, V. 11, N. 6, (November 2005), pp. 741-756.
61. G. Porter, R. H. Katz, "Effective Web Service Load Balancing Through Statistical Monitoring," *Communications of the ACM*, V. 49, N. 3, (March 2006), pp. 48-54.
62. F. Yu, R. H. Katz, T. V. Lakshman, "Efficient Multi-Match Packet Classification for Network Security Applications," *IEEE Journal on Selected Areas in Communications*, Special Issue on High-Speed Network Security, V. 24, N. 10, (October 2006), pp. 1805-1816.
63. Y. Chen, D. Bindel, H. Song, B. Chavez, R. H. Katz, "Algebra-based Scalable Overlay Network Monitoring: Algorithms, Evaluation, and Applications," *ACM Transactions on Networks*, V. 15, N. 5, (October 2007), pp. 1084-1097.

Conference and Symposium Proceedings

1. Katz, R. H., "Performance Enhancement for Relational Systems through Query Compilation," Proceedings AFIPS National Computer Conference, New York, NY, (June 1979).
2. Wong, E., R. H. Katz, "Logical Design and Schema Conversion for Relational and DBTG Databases," Proceedings of International Conference on Entity-Relationship Approach, Los Angeles, CA, (December 1979). Also in *Entity-Relationship Approach to Systems Analysis and Design*, P. P. Chen, ed., North-Holland Publishing Co., Amsterdam, (1980). Also in *The Ingres Papers: Anatomy of a Relational Database System*, M. Stonebraker, ed., Addison-Wesley, Reading, MA, (1986).
3. Katz, R. H., E. Wong, "An Access Path Model for Physical Database Design," Proceedings A.C.M. SIGMOD Conference, Los Angeles, CA, (May 1980). Also in *The Ingres Papers: Anatomy of a Relational Database System*, M. Stonebraker, ed., Addison-Wesley, Reading, MA, (1986).
4. Katz, R. H., N. Goodman, "View Processing in MULTIBUS—A Heterogeneous Database System," Proceedings of 2nd International Conference on Entity-Relationship Approach, Washington, D.C., (October 1981). Also in *Entity-Relationship Approach to Information Modeling and Analysis*, P. P. Chen, ed., North-Holland Publishing Co., Amsterdam, (1983).
5. Katz, R. H., "Software Architectures for Heterogeneous Database Management," Proceedings 1981 I.E.E.E. Computer Science Applications Conference, Chicago, IL, (November 1981).
6. Dayal, U., N. Goodman, R. H. Katz, "An Extended Relational Algebra with Control over Duplicate Elimination," Proceedings A.C.M. SIGACT--SIGMOD Conference on the Principles of Database Systems, Los Angeles, CA, (March 1982).
7. Katz, R. H., "Compiling Relational Queries into CODASYL DML," Proceedings of 2nd International Conference on Databases: Improving Usability and Responsiveness, Jerusalem, Israel, (June 1982). Also in *Database Usability and Responsiveness*, P. Scheuermann, ed., Academic Press, New York, (1982).

8. Katz, R. H., "A Database Approach for Managing VLSI Design Data," Proceedings A.C.M./I.E.E.E. 19th Design Automation Conference, Las Vegas, NV, (June 1982).
9. Smith, J. E., A. R. Pleszkun, R. H. Katz, J. R. Goodman, "PIPE: A High Performance VLSI Architecture," Proceedings I.E.E.E. International Workshop on Computer System Organization, New Orleans, LA, (March 1983).
10. Wong, E., R. H. Katz, "Distributing a Database for Parallelism," Proceedings A.C.M. SIGMOD Conference, San Jose, CA, (May 1983).
11. Katz, R. H., S. Weiss, "Chip Assemblers: Concepts and Capabilities," Proceedings A.C.M./I.E.E.E. 20th Design Automation Conference, Miami, FL, (June 1983).
12. Katz, R. H., "Transaction Management in the Design Environment," Proceedings Special Workshop on New Applications of Databases, Cambridge, England, (September 1983). Also in *New Applications of Databases*, Academic Press, London, 1984.
13. Katz, R. H., S. Weiss, "Design Transaction Management," Proceedings A.C.M./I.E.E.E. 21st Design Automation Conference, Albuquerque, NM, (June 1984).
14. DeWitt, D. J., R. H. Katz, F. Olken, L. D. Shapiro, M. Stonebraker, D. Wood, "Implementation Techniques for Main Memory Databases," Proceedings A.C.M. SIGMOD Conference, Boston, MA, (June 1984).
15. Borriello, G., R. H. Katz, "Design Frames: A New Methodology for the System Integration of Custom VLSI," Chapel Hill VLSI Conference, Chapel Hill, NC, (May 1985).
16. Katz, R. H., S. Eggers, D. Wood, C. Perkins, R. Sheldon, "Implementing a Cache Consistency Protocol," Proceedings 12th Annual Symposium on Computer Architecture, Boston, MA, (June 1985). Also in *The Cache Coherence Problem in Shared-Memory Multiprocessors*, M. Tomasevic, V. Milutinovic, ed., IEEE Press, 1993.
17. Obermeier, F. W., R. H. Katz, "PLA Driver Selection: An Analytic Approach," ACM/IEEE 22nd Design Automation Conference, Las Vegas, NV, (June 1985).
18. Katz, R. H., E. Chang, R. Bhateja, "Version Modeling Concepts for Computer-Aided Design Databases," Proceedings ACM SIGMOD Conference, Washington, D.C., (May 1986).
19. Wood, D. A., S. E. Eggers, G. Gibson, M. A. Hill, J. M. Pendleton, S. A. Scott, G. Taylor, R. H. Katz, D. A. Patterson, "An In-Cache Virtual Memory Translation Mechanism," Proceedings 13th Annual Symposium on Computer Architecture, Tokyo, Japan, (June 1986).
20. Katz, R. H., M. Anwarrudin, E. Chang, "A Version Server for Computer-Aided Design Data," Proceedings 23rd ACM/IEEE Design Automation Conference, Las Vegas, NV, (June 1986). Best Paper Award.
21. Bhateja, R., R. H. Katz, "A Validation Subsystem of a Version Server for Computer-Aided Design Data," Proceedings 24th A.C.M./I.E.E.E. Design Automation Conference, Miami, FL, (June 1987).
22. G. Borriello, R. H. Katz, "Synthesizing Transducers from Interface Specifications," VLSI'87, Vancouver, Canada, (August 1987).
23. R. H. Katz, E. Chang, "Managing Change in a Computer-Aided Design Database", Proceedings 13th Intl. Conf. on Very Large Databases, Brighton, England, (September 1987). Also in *Readings in Object-Oriented Databases*, S. Zdonik, D. Maier, eds., Morgan Kaufmann Publishers, San Mateo, CA, 1988.
24. S. Malik, R. H. Katz, "Combining Multi-level Decomposition and Topological Partitioning for PLAs," Proceedings Intl. Conf. on Computer-Aided Design (ICCAD '87), Santa Clara, CA, (November 1987).
25. G. Borriello, R. H. Katz, "Synthesis and Optimization of Interface Transducer Logic," Proceedings Intl. Conf. on Computer-Aided Design (ICCAD '87), Santa Clara, CA, (November 1987).
26. D. A. Patterson, G. A. Gibson, R. H. Katz, "The Case for Redundant Arrays of Inexpensive Disks (RAID)", Proceedings ACM SIGMOD Conference, Chicago, IL, (May 1988). Selected as Most Influential Paper of the 1988 Proceedings in 1998 ("Test of Time" Award). Reprinted in *Readings in Computer Architecture*, M. D. Hill, N. P. Jouppi, G. S. Gohi, eds., Morgan Kaufman Publishers, San Francisco, CA, 2000, pp. 474-481. Reprinted in H. Jin, T. Cortes, R. Buyya (eds.), *High Performance Mass Storage and Parallel I/O: Technologies and Applications*, IEEE & Wiley Press, ISBN: 0-471-20809-4, New York, USA, 2001, pp. 3-14.
27. F. W. Obermeier, R. H. Katz, "An Electrical Optimizer that Considers Physical Layout," Proceedings 25th ACM/IEEE Design Automation Conference, Anaheim, CA, (June 1988).
28. D. M. Gedye, R. H. Katz, "Browsing the Chip Design Database," Proceedings 25th ACM/IEEE Design Automation Conference, Anaheim, CA, (June 1988).
29. S. J. Eggers, R. H. Katz, "A Characterization of Sharing in Parallel Programs and Its Application to Coherency Protocol Evaluation", Proceedings 14th Annual Symposium on Computer Architecture, Honolulu, Hawaii, (June 1988).

30. M. R. Stonebraker, R. H. Katz, D. A. Patterson, J. K. Ousterhout, "The Design of Xprs," Proceedings 14th International Conference on Very Large Databases, Los Angeles, CA, (August 1988).
31. A. Saldanha, R. H. Katz, "PLA Optimization Using Output Encoding", Proceedings ICCAD'88, Santa Clara, CA, (November 1988).
32. F. Obermeier, R. H. Katz, "Combining Circuit Level Changes with Electrical Optimization", Proceedings ICCAD'88, Santa Clara, CA, (November 1988).
33. S. J. Eggers, R. H. Katz, "The Effect of Sharing on the Cache and Bus Performance of Parallel Programs," Third International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS-III), Boston, MA, (April 1989).
34. G. Gibson, L. Hellerstein, R. Karp, R. Katz, D. Patterson, "Failure Correction Techniques for Large Disk Arrays," Third International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS-III), Boston, MA, (April 1989). Reprinted in H. Jin, T. Cortes, R. Buyya (eds.), *High Performance Mass Storage and Parallel I/O: Technologies and Applications*, IEEE & Wiley Press, ISBN: 0-471-20809-4, New York, USA, 2001, pp. 149-160.
35. S. J. Eggers, R. H. Katz, "Evaluating the Performance of Four Snooping Cache Coherency Protocols," Proceedings Annual Symposium on Computer Architecture, Jerusalem, Israel, (June 1989).
36. D. A. Wood, R. H. Katz, "Supporting Reference and Dirty Bits in SPUR's Virtual Address Cache," Proceedings Annual Symposium on Computer Architecture, Jerusalem, Israel, (June 1989).
37. E. Chang, R. H. Katz, "Exploiting Structural Semantics for Effective Clustering and Buffering," Proceedings ACM Sigmod Conference, Portland, OR, (June 1989).
38. M. Silva, D. Gedye, R. Katz, R. Newton, "Protection, Versions, and Configurations for the OCT Environment," Proceedings 26th Annual ACM/IEEE Design Automation Conference, Las Vegas, NV, (June 1989).
39. A. Casotto, R. H. Katz, C. Kring, "Using OCT/VEM Synthesis Tools in a VLSI Design Course," Proceedings 2nd VLSI Educators Conference, Santa Clara, CA, (July 1989).
40. S. Kong, D. Lee, R. Katz, D. Hodges, D. Patterson, "From Chip to System: The SPUR CPU Experience," Proceedings VLSI '89 Conference, Munich, Germany, (August 1989).
41. P. M. Chen, G. A. Gibson, R. H. Katz, D. A. Patterson, "An Evaluation of Redundant Arrays of Disks using an Amdahl 5890," ACM SIGMETRICS Conference, Boulder, CO, (May 1990).
42. R. H. Katz, "Very High Performance Disk Subsystems Based on Arrays of Disks," International Digital Equipment Corporation Users Group (DECUS) Conference, New Orleans, LA, (May 1990).
43. D. Lee, R. H. Katz, "Non-refresh Dynamic RAM for On-chip Cache Memories," Proceedings Intl. Symposium on VLSI Circuits, Honolulu, Hi, (June 1990).
44. T. F. Chiueh, R. H. Katz, V. King, "A History Model for the VLSI Design Process," Proceedings ICCAD '90 Conference, Santa Clara, CA, (November 1990).
45. T. F. Chiueh, R. H. Katz, "An Annotation System for VLSI Design," Proceedings Intl. Phoenix Conf. on Computers and Communications, Phoenix, AZ, (February 1991).
46. E. K. Lee, R. H. Katz, "Performance Consequences of Parity Placement in Disk Arrays," Proceedings Fourth ASPLOS Conference, Palo Alto, CA, (April 1991).
47. A. L. Chervenak, R. H. Katz, "Performance Measurements of a First RAID Prototype," ACM SIGMETRICS Conference, San Diego, CA, (May 1991).
48. T. F. Chiueh, R. H. Katz, "Trait: An Attribute Management System for VLSI Design Objects," ACM SIGMOD Conference, Denver, CO, (May 1991).
49. R. H. Katz, D. Gordon, J. A. Tuttle, "Storage System Metrics for Evaluating Disk Array Organizations," Proceedings of U. S. Decus Symposia, Atlanta, GA, (May 1991). Best Paper Award.
50. R. H. Katz, "Experiences in Teaching Rapid Prototyping Concepts in an Undergraduate Digital Logic Design Course: Successes and Failures," Proceedings 4th MicroSystems Educators Conference, San Jose, CA, (July 1991).
51. E. L. Miller, R. H. Katz, "Analyzing the I/O Behavior of Supercomputer Applications," Mass Storage System Workshop, Monterey, CA, (October 1991).
52. E. L. Miller, R. H. Katz, "Analyzing the I/O Behavior of Supercomputer Applications," Supercomputing '91, Albuquerque, NM, (November 1991).
53. T. F. Chiueh, R. H. Katz, "Intelligent VLSI Design Object Management," Proceedings of the European Conference on Design Automation (EDAC), Brussels, Belgium, (March 1992).
54. T. F. Chiueh, R. H. Katz, "Incremental Meta-data Construction for VLSI Design Databases," Proceedings of the European Conference on Design Automation (EDAC), Brussels, Belgium, (March 1992).

55. R. H. Katz, "Network-Attached Storage Systems," Proceedings Scalable High Performance Computing Conference, Williamsburg, VA, (April 1992).
56. T. F. Chiueh, R. H. Katz, "Eliminating the Address Translation Bottleneck for Physical Address Cache," Proceedings Fifth ASPLOS Conference, Boston, MA, (October 1992).
57. E. L. Miller, R. H. Katz, Steven Strange, "An Analysis of File Migration in a UNIX Supercomputing Environment," Winter 1993 USENIX Conference, San Diego, CA, (January 1993).
58. T. F. Chiueh, R. H. Katz, "A Distributed Transaction Facility for Design Task Management," Proceedings of the European Conference on Design Automation (EDAC), Paris, (February 1993).
59. A. L. Drapeau, R. H. Katz, "Analysis of Striped Tape Systems," IEEE Mass Storage Symposium, Monterey, CA, (March 1993).
60. E. L. Miller, R. H. Katz, "RAMA: A File System for Massively Parallel Computers," IEEE Mass Storage Symposium, Monterey, CA, (March 1993).
61. R. H. Katz, P. M. Chen, A. L. Drapeau, E. K. Lee, E. L. Miller, S. Seshan, D. A. Patterson, "RAID-II: Design and Implementation of a Large Scale Disk Array Controller," VLSI System Design Conference, Seattle, WA, (March 1993). Reprinted in H. Jin, T. Cortes, R. Buyya (eds.), *High Performance Mass Storage and Parallel I/O: Technologies and Applications*, IEEE & Wiley Press, ISBN: 0-471-20809-4, New York, USA, 2001, pp. 408-419.
62. P. M. Chen, E. K. Lee, A. L. Drapeau, K. Lutz, E. L. Miller, S. Seshan, K. Shirriff, D. A. Patterson, R. H. Katz, "Performance and Design Evaluation of the RAID-II Storage Server," International Parallel Processing Symposium Workshop on I/O in Parallel Computer Systems, (April 1993).
63. E. K. Lee, R. H. Katz, "An Analytic Performance Model of Disk Arrays and Its Application," ACM SIGMETRICS Conference, San Diego, CA, (May 1993). Also in *Readings in Performance Evaluation for Computer Architects*, C. M. Krishna, ed., IEEE Press, 1994.
64. M. J. Silva, R. H. Katz, "Active Documentation for VLSI Design," IEEE Design Automation Conference, Dallas, TX, (June 1993).
65. T. F. Chiueh, R. H. Katz, "Multiresolution Video Representation for Parallel Disk Arrays," ACM Multimedia '93 Conference, Anaheim, CA, (August 1993).
66. K. Keeton, B. Mah, S. Seshan, R. Katz, D. Ferrari, "Providing Connection-Oriented Network Services to Mobile Hosts," 1993 USENIX Symposium on Mobile and Location-Dependent Computing, Cambridge, MA, (August 1993).
67. S. Seshan, R. H. Katz, "Interfacing a High Performance Disk Array File Server to a Gigabit LAN," 18th IEEE Conference on Local Computer Networks, Minneapolis, MN, (September 1993).
68. B. Mah, K. Keeton, S. Seshan, D. Ferrari, R. Katz, "Providing Network Services to Mobile Hosts," ACM Workshop on Workstation Operating Systems (WWOS-IV), Napa, CA, (October 1993).
69. A. L. Drapeau, R. H. Katz, "Striping in Large Tape Libraries," Supercomputing '93, Portland, OR, (November 1993).
70. K. Keeton, R. H. Katz, "The Evaluation of Video Layout Strategies in a High Bandwidth File Server," Fourth International Workshop on Network and Operating System Support for Digital Audio and Video, Lancaster, England, (November 1993).
71. T. Chiueh, R. H. Katz, "Papyrus: A History-Based VLSI Design Process Management System," Tenth International Conference on Data Engineering, Houston, (February 1994).
72. A. L. Drapeau, P. M. Chen, J. H. Hartman, E. K. Lee, E. L. Miller, K. Shirriff, R. H. Katz, K. Lutz, D. A. Patterson, "RAID-II: A Scalable Storage Architecture for High-Bandwidth Network File Service," 21st International Symposium on Computer Architecture, Chicago, IL, (April 1994).
73. M. Silva, R. H. Katz, "Ensembles of Interactive Tools and Hypermedia Documents in VLSI Design," Conference on Electronic CAD Interoperability and Integration, Berkeley, CA, (May 1994).
74. K. Keeton, A. L. Drapeau, D. Patterson, R. Katz, "Storage Alternatives for Video Service," Thirteenth IEEE Symposium on Mass Storage Systems, Annecy, France, (June 1994).
75. R. H. Katz, "Reengineering Government through Information Technology: the National Performance Review," 13th World Computer Congress, IFIP Congress '94, Hamburg, Germany, (August 1994).
76. E. L. Miller, R. H. Katz, "RAMA: Easy Access to a High Bandwidth Massively Parallel File System," Winter Usenix Conference, New Orleans, CA, (January 1995).
77. E. Amir, H. Balakrishnan, S. Seshan, R. H. Katz, "Efficient TCP over Networks with Wireless Links," Proceedings HotOS-V Workshop, Orcus Island, WA, (May 1995).
78. M. Silva, R. H. Katz, "The Case for Design Using the World Wide Web," IEEE Design Automation Conference, San Francisco, CA, (June 1995).

79. A. L. Chervenak, D. A. Patterson, R. H. Katz, "Choosing the Best Storage System for Video Service," ACM Multimedia'95 Conference, San Francisco, CA, (November 1995).
80. H. Balakrishnan, S. Seshan, E. Amir, R. H. Katz, "Improving TCP/IP Performance over Wireless Networks," ACM Conference on Mobile Computing and Networks, Oakland, CA, (November 1995). Best Paper Award.
81. R. H. Katz, E. A. Brewer, "The Case for Wireless Overlay Networks," Proceedings 1996 SPIE Conference on Multimedia and Networking, MMCM '96, San Jose, CA, (January 1996).
82. H. Balakrishnan, V. Padmanabhan, S. Seshan, R. H. Katz, "A Comparison of Mechanisms for Improving TCP Performance over Wireless Links," ACM SIGCOMM 96, Stanford, CA, (August 1996).
83. M. Stemm, P. Gautier, D. Harada, R. H. Katz, "Reducing Power Consumption of Network Interfaces in Hand-Held Devices," International Workshop on Mobile Multimedia Communications (MoMUC-3), Princeton, NJ, (October 1996).
84. V. N. Padmanabhan, H. Balakrishnan, K. Sklower, E. Amir, R. H. Katz, "Networking using Direct Broadcast Satellite," Workshop on Satellite-Based Information Systems (WOSBIS-96), Rye, NY, (November 1996).
85. G. T. Nguyen, R. H. Katz, B. Noble, M. Satyanarayan, "A Trace-Based Approach for Modeling Wireless Channel Behavior," Proceedings Winter Simulation Conference '96, Coronado, CA, (December 1996).
86. H. Balakrishnan, M. Stemm, S. Seshan, R. H. Katz, "Analyzing Stability in Wide-Area Network Performance," ACM Sigmetrics Conference, Seattle, WA, (June 1997).
87. B. Noble, M. Satyanarayanan, G. Nguyen, R. H. Katz, "Trace Based Mobile Network Emulation," ACM SIGCOMM Conference, Cannes, France, (September 1997).
88. T. Hodes, R. H. Katz, E. Servan-Schreiber, L. A. Rowe, "Composable Ad-Hoc Mobile Services for Universal Interaction," Third ACM Mobicom Conference, Budapest, Hungary, (September 1997). Best Paper Award.
89. H. Balakrishnan, V. Padmanabhan, R. H. Katz, "The Effects of Asymmetry on TCP Performance over Wide-Area Wireless Networks," Third ACM Mobicom Conference, Budapest, Hungary, (September 1997).
90. T. Henderson, R. Katz, "Satellite Transport Protocol (STP)--An SSCOP-based Transport Protocol for Datagram Satellite Networks," Second Workshop on Satellite-Based Information Systems (WOSBIS-97), Budapest, Hungary, (October 1997).
91. R. Ranjan, S. Qadeer, A. Mehrotra, R. H. Katz, "Benchmarking Architectures for CAD," IEEE International Conference on Computer Design (ICCD '97) Conference, Austin, TX, (October 1997). Best Paper Award.
92. E. Amir, S. McCanne, R. H. Katz, "Receiver Driven Bandwidth Allocation for Light Weight Session," ACM Multimedia '97 Conference, Seattle, WA (November 1997). Best Paper Award.
93. M. Stemm, S. Seshan, R. H. Katz, "SPAND: Shared Passive Network Performance Discovery," USENIX Symposium on Internet Technologies and Systems, Monterey, CA, (December 1997).
94. H. Balakrishnan, M. Stemm, S. Seshan, V. Padmanabhan, R. H. Katz, "TCP Behavior of a Busy Internet Server: Analysis and Solutions," IEEE Infocomm Conference, San Francisco, CA, (March 1998).
95. T. Henderson, R. H. Katz, "Packet Routing and Transport Protocols for Future Broadband Satellite Systems," Satellite Networks: Architectures, Applications and Technologies Workshop, Cleveland, OH, (June 1998).
96. A. Schuett, S. Raman, Y. Chawathe, S. McCanne, R. H. Katz, "A Soft State Protocol for Accessing Multimedia Archives," Proceedings Eighth NOSSDAV'98 Workshop, Cambridge, England, (July 1998).
97. E. Amir, S. McCanne, R. H. Katz, "The Media Gateway Architecture: A Prototype for Active Services," ACM SIGCOMM'98 Conference, Vancouver, Canada, (September 1998). Best Paper Award.
98. A. Jacobsen, T. Ye, R. H. Katz, "Mobile Awareness in a Wide-Area Network of Info-stations," ACM/IEEE MobiCom'98, Dallas, TX, (October 1998).
99. A. Joseph, B. Badrinath, R. H. Katz, "The Case for Services over Cascaded Networks," First ACM/IEEE International Conference on Wireless and Mobile Multimedia (WoWMoM'98), Dallas, TX, (October 1998).
100. T. Wong, T. Henderson, S. Raman, A. Costello, R. H. Katz, "Policy-Based Tunable Reliable Multicast for Periodic Information Dissemination," Workshop on Satellite-Based Information Systems (WOSBIS'98), Dallas, TX, (October 1998).
101. T. Henderson, E. Sahoria, S. McCanne, R. H. Katz, "Improving Fairness of TCP Congestion Avoidance," IEEE Globecom Conference, Sydney, Australia, (November 1998).
102. H. Balakrishnan, R. H. Katz, "Explicit Loss Notification and Wireless Web Performance," IEEE Globecom Conference, Sydney, Australia, (November 1998).
103. V. Padmanabhan, R. H. Katz, "TCP Fast Start: a Technique for Speeding Up Web Transfers," IEEE Globecom Conference, Sydney, Australia, (November 1998).
104. S. Seshan, M. Stemm, R. H. Katz, "Benefits of Transparent Content Negotiation in HTTP," IEEE Globecom Conference, Sydney, Australia, (November 1998).

105. T. Hodes, M. Newman, R. H. Katz, S. McCanne, J. Landay, "Shared Remote Control of a Video Conferencing Application: Motivation, Design, and Implementation," Multimedia Computing and Networking Conference (MMCN'99), San Jose, CA, (January 1999).
106. H. J. Wang, R. H. Katz, J. Giese, "Policy-Enabled Handoffs Across Heterogenous Wireless Networks," 2nd IEEE Workshop on Mobile Computing Systems and Applications (WMCSA '99), New Orleans, LA, (Feb. 1999), pp. 51-60.
107. J. Kahn, R. H. Katz, K. Pister, "Next Century Challenges: Mobile Networking for 'Smart Dust'," ACM MOBICOM Conference, Seattle, WA, (August 1999).
108. S. Czerwinsky, B. Zhao, T. Hodes, A. Joseph, R. H. Katz, "An Architecture for a Secure Service Discovery Service," ACM MOBICOM Conference, Seattle, WA, (August 1999).
109. T. Hodes, R. H. Katz, "A Document-based Framework for Internet Application Control," 2nd USENIX Symposium on Internet Technologies (USITS'99), Boulder, CO, (October 1999).
110. A. Schuett, R. H. Katz, S. McCanne, "Using Distributed Recorders for High Quality Mbone Archives," First International Workshop on Networked Group Communications, Pisa, Italy, (November 1999), in L. Rizzo, S. Fdida, eds., *Lecture Notes in Computer Science 1736: Networked Group Communication*, Springer Verlag Publishers, Berlin, 1999, pp. 126-143.
111. T. Wong, R. H. Katz, "Matchmaker: A Protocol Architecture for Efficient Multi-Party Applications," First International Workshop on Networked Group Communications, Pisa, Italy, (November 1999), in L. Rizzo, S. Fdida, eds., *Lecture Notes in Computer Science 1736: Networked Group Communication*, Springer Verlag Publishers, Berlin, 1999, pp. 1-18.
112. H. Wang, R. H. Katz, A. D. Joseph, "A Signaling System Using Light-weight Call Sessions," IEEE Infocomm 2000 Conference, Tel Aviv, Israel, (March 2000).
113. M. Stemm, S. Seshan, R. H. Katz, "A Network Measurement Architecture for Adaptive Applications," IEEE Infocomm 2000 Conference, Tel Aviv, Israel, (March 2000).
114. T. Wong, R. H. Katz, S. McCanne, "Efficient Multi-Party Applications using Preference Clustering," IEEE Infocomm 2000 Conference, Tel Aviv, Israel, (March 2000).
115. T. Henderson, R. H. Katz, "Network Simulation for LEO Satellite Networks," 18th AIAA International Communications Satellite Systems Conference (ICSSC), Oakland, CA, (April 2000).
116. C. Chuah, L. Subramanian, A. D. Joseph, R. H. Katz, "QoS Provisioning Using A Clearing House Architecture," 8th International Workshop on Quality of Service (IWQOS 2000), Pittsburgh, PA, (June 2000).
117. L. Subramanian, R. H. Katz, "An Architecture for Building Self-Configurable Systems," ACM MobiHoc Workshop, Cambridge, MA, (August 2000).
118. R. Gummadi, R. H. Katz, "The Data Management Problem in Post-PC Devices and a Solution," SIGOPS EW'00: 9th ACM SIGOPS European Workshop "Beyond the PC: New Challenges for the Operating System," Kolding, Denmark, (September 2000).
119. T. Wong, R. H. Katz, "An Analysis of Multicast Forwarding State Scalability," Proceedings 8th International Conference on Network Protocols (ICNP'2000), Osaka, Japan, (November 2000).
120. T. Henderson, R. H. Katz, "On Distributed, Geographic-Based Packet Routing for LEO Satellite Networks," IEEE GlobeCom 2000, San Francisco, CA, (November 2000).
121. B. Raman, R. H. Katz, A. Joseph, "Providing Extensible Personal Mobility and Service Mobility in an Integrated Communication Network," 3rd IEEE Workshop on Mobile Computing Systems and Applications (WMCSA2000), Monterey, CA, (December 2000).
122. H. Wang, R. H. Katz, A. Joseph, "A Personal Communication Service Creation Model for Integrated Communication Systems on the Internet," Proc. IEEE International Conference on Communications (ICC2001), Helsinki, Finland, (June 2001).
123. S. Zhuang, B. Zhao, A. Joseph, R. H. Katz, J. Kubiatowicz, "Bayeux: An Architecture for Wide-Area, Fault-Tolerant Data Dissemination Protocol," ACM NOSSDAV 2001, New York, (June 2001).
124. Z. Mao, W. So, R. H. Katz, "Network Support for Mobile Multimedia Using a Self-Adaptive Distributed Proxy," ACM NOSSDAV 2001, New York, (June 2001).
125. H. Wang, R. H. Katz, "Mobility Support in Unified Communication Systems," ACM WoWMoM (Workshop on Wireless Mobile Multimedia) 2001, Rome, Italy, (July 2001).
126. S. Agarwal, S. V. Krishnamurthy, R. H. Katz, S. K. Dao, "Distributed Power Control in Ad-hoc Wireless Networks," 12th IEEE Intl. Symp. On Personal, Indoor, and Mobile Radio Communications (PIMRC'01), San Diego, (September 2001).

127. Y. Chen, A. Bargteil, R. H. Katz, "Quantifying Network Denial of Service: A Location Service Case Study," Third International Conference on Information and Communication Security (ICICS'2001), Xi'an, China, (November 2001).
128. J. Shih, R. H. Katz, "Pricing Experiments for a Computer-Telephony-Service Usage Allocation," IEEE Globecom 2001, San Antonio, TX, (November 2001).
129. Y. Chen, R. H. Katz, J. Kubiawicz, "Replica Placement for Scalable Content Delivery," Proceedings First International Conference on Peer-to-Peer Systems (IPTPS'02), Cambridge, MA, (March 2002).
130. C. Chuah, R. H. Katz, "Characterizing Packet Audio Streams from Internet Multimedia Applications," International Communications Conference (ICC 2002), New York, NY, (April 2002).
131. T. Suzuki, R. H. Katz, "An Authorization Control Framework to Enable Service Composition Across Domains," Proceedings Eleventh World Wide Web Conference (WWW2002), Honolulu, HI, (May 2002).
132. M. Caesar, D. Ghosal, R. H. Katz, "Resource Management for IP Telephony Networks," Proceedings 10th International Workshop on Quality of Service (IWQoS), Miami Beach, FL, (May 2002).
133. L. Subramanian, V. Padmanabhan, R. H. Katz, "Geographic Properties of Internet Routing," USENIX Conference, Monterey, California, (June 2002).
134. L. Subramanian, S. Agarwal, J. Rexford, R. H. Katz, "Characterizing the Internet Hierarchy from Multiple Vantage Points," IEEE Infocomm Conference, New York, NY, (June 2002).
135. J. Shih, R. H. Katz, "Evaluating the Tradeoffs of Congestion Pricing for Voice Calls," 2002 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS 2002), San Diego, California, (July 2002).
136. B. Raman, R. H. Katz, "Emulation-based Evaluation of an Architecture for Wide-Area Service Composition," 2002 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS 2002), San Diego, California, (July 2002).
137. Z. Mao, R. Govindan, G. Varghese, R. H. Katz, "Route Flap Damping Exacerbates Internet Routing Convergence." ACM SIGCOMM Conference, Pittsburgh, PA, (August 2002).
138. Y. Chen, R. H. Katz, J. D. Kubiawicz, "SCAN: a Dynamic Scalable and Efficient Content Distribution Network," International Conference on Pervasive Computing (Pervasive 2002), Zurich, Switzerland, (August 2002).
139. B. Raman, S. Agarwal, Y. Chen, M. Caesar, W. Cui, P. Johansson, K. Lai, T. Lavian, S. Machiraju, Z. Mao, G. Porter, T. Roscoe, M. Seshadri, J. Shih, K. Sklower, L. Subramanian, T. Suzuki, S. Zhuang, A. D. Joseph, R. H. Katz, I. Stoica, "The SAHARA Model for Service Composition Across Multiple Providers," International Conference on Pervasive Computing (Pervasive 2002), Zurich, Switzerland, (August 2002), Invited Paper.
140. A. Mohin, S. V. Krishnamurthy, R. H. Katz, S. K. Dao, "An Architecture for Providing Range Extension by Deploying Gateways in Ad Hoc Networks," 13th IEEE Intl. Symp. On Personal, Indoor, and Mobile Radio Communications (PIMRC'02), Lisboa, Portugal (September 2002).
141. Z. Mao, R. H. Katz, "A Framework for Universal Service Access using Device Ensembles," CRA Grace Murray Hopper Celebration of Women in Computer Science Conference, Vancouver, BC, (October 2002). Mao selected as Hopper Young Investigator (Best Student Paper).
142. L. Subramanian, I. Stoica, H. Balakrishnan, R. H. Katz, "OverQoS: Offering QoS using Overlays," First Workshop on Hot Topics in Networking (HotNets02), Princeton, NJ, (October 2002).
143. Y. Chen, L. Qi, R. H. Katz, "On the Clustering of Web Content for Efficient Replication," 10th IEEE Conference on Network Protocols (ICNP 2002), Paris, France, (November 2002).
144. W. Cui, I. Stoica, R. H. Katz, "Backup Path Allocation Based on a Correlated Link Failure Probability Model in Overlay Networks," 10th IEEE Conference on Network Protocols (ICNP 2002), Paris. France, (November 2002).
145. B. Raman, R. H. Katz, "Load Balancing and Stability Issues in Algorithms for Service Composition," IEEE Infocomm Conference, San Francisco, California, (April 2003).
146. S. Agarwal, C. N. Chuah, R. H. Katz, "OPCA: Robust Interdomain Policy Routing and Traffic Control," Proceedings OpenArch 2003, San Francisco, CA, (April 2003).
147. S. Zhuang, K. Lai, I. Stoica, R. H. Katz, S. Shenker, "Host Mobility using an Internet Indirection Infrastructure," First International Conference on Mobile Systems, Applications, and Services (ACM/USENIX Mobisys), San Francisco, CA, (May 2003).
148. Z. Mao, J. Rexford, J. Wang, R. H. Katz, "Towards an Accurate AS-Level Traceroute Tool," Proceedings ACM SIGCOMM Conference, Karlsruhe, Germany, (August 2003).

149. Y. Matsunaga, A. Merino, T. Suzuki, R. H. Katz, "Secure Authentication System for Public WLAN," Proceedings First ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots (ACM WMASH 2003), San Diego, CA, (September 2003).
150. Y. Chen, D. Bindel, R. H. Katz, "Tomography-based Overlay Network Monitoring," Extended Abstract, Proceedings Internet Measurement Conference (ICM-03), Miami, FL, (October 2003).
151. L. Subramanian, V. Roth, I. Stoica, R. H. Katz, S. Shenker, "Listen and Whisper: Security Mechanisms for BGP," USENIX/ACM Symposium on Networked System Design and Implementation (NSDI'04), San Francisco, CA, (March 2004). Best Student Paper Award.
152. L. Subramanian, I. Stoica, R. H. Katz, H. Balakrishnan, "OverQoS: An Overlay Based Architecture for Enhancing Internet QoS," USENIX/ACM Symposium on Networked System Design and Implementation (NSDI'04), San Francisco, CA, (March 2004).
153. Y. Matsunaga, R. H. Katz, "Inter-Domain Radio Resource Management for Wireless LANs," Wireless Communications and Networking Conference (WCNC'2004), Atlanta, GA, (March 2004).
154. Z. Mao, D. Johnson, J. Rexford, J. Wang, R. H. Katz, "Scalable and Accurate Identification of AS-level Forwarding Paths," Proc. IEEE INFOCOM Conference, San Francisco, CA, (March 2004).
155. Y. Chen, D. Bindel, H. Song, R. H. Katz, "An Algebraic Approach to Practical and Scalable Overlay Network Monitoring," ACM SIGCOMM Conference, Portland, OR, (August 2004).
156. F. Yu, T. V. Lakshman, R. H. Katz, "Multi-class Classification using TCAM," Hot Interconnects 12 Symposium on High Performance Interconnects, Stanford, CA, (August 2004). Best Paper Award.
157. F. Yu, T. V. Lakshman, R. H. Katz, "Gigabit Rate Pattern-Matching using TCAM," International Conference on Network Protocols (ICNP), Berlin, Germany, (October 2004). Best Paper Award.
158. A. Fox, E. Kiciman, D. Patterson, M. Jordan, R. H. Katz, "Combining Statistical Monitoring and Predictable Recovery for Self-Management," Proceedings of 2004 Workshop on Self-Managed Systems (WOSS'04) in conjunction with ACM SIGSOFT FSE-12, Newport Beach, CA, (October 2004). Earlier version presented at 2nd Bertinoro Workshop on Future Directions in Distributed Computing (FuDiCo II): Survivability: Obstacles and Solutions, (June 2004).
159. S. Machiraju, R. H. Katz, "Verifying Global Invariants in Multi-Provider Distributed Systems," Proceedings HotNets-III Workshop on Hot Topics in Networking, San Diego, CA, (November 2004).
160. S. Zhuang, R. H. Katz, I. Stoica, D. Geels, "On Failure Detection in Overlay Networks," Proc. IEEE Infocomm Conference, Miami, FL, (March 2005).
161. W. Cui, R. H. Katz, D. Tan, "BINDER: An Extrusion-based Break-In Detector for Personal Computers," Proc. USENIX 2005 Technical Conference, Anaheim, CA, (March 2005).
162. G. Porter, R. H. Katz, "Effective Web Service Load balancing through Statistical Monitoring," IFIP/IEEE International Workshop on Self-Managed Systems and Services (SelfMan 2005), Nice, France, (May 2005).
163. R. H. Katz, G. Porter, S. Shenker, I. Stoica, M. Tsai, "COPS: Quality of Service vs. Any Service at All," Springer Verlag Lecture Notes in Computer Science, Proceedings International Workshop on Quality of Service (IWQOS 05), Passau, Germany, (June 2005). Invited Paper.
164. M. Caesar, L. Subramanian, R. H. Katz, "The Case for an Internet Health Monitoring System," First Workshop on Hot Topics in System Dependability (HotDep), Yokohama, Japan, (June 2005).
165. L. Subramanian, R. H. Katz, V. Roth, S. Shenker, I. Stoica, "Reliable Broadcast in Unknown Fixed-Identity Networks," ACM SIGACT-SIGOPS Symposium on the Principles of Distributed Computing (PODC 2005), Las Vegas, NV, (July 2005).
166. J. Kannan, L. Subramanian, I. Stoica, R. H. Katz, "Analyzing Cooperative Containment of Fast Scanning Worms," USENIX Steps to Reducing Unwanted Traffic on the Internet Workshop (SRUTI'05), Cambridge, MA, (July 2005).
167. F. Yu, T.V. Lakshman, M. A. Motoyama, R. H. Katz, "SSA: A Power and Memory Efficient Scheme to Multi-Match Packet Classification," 1st Symposium on Architectures for Networking and Communications Systems (ANCS), Princeton, NJ, (October 2005).
168. W. Cui, R. H. Katz, D. Tan, "Design and Implementation of an Extrusion-based Break-In Detector for Personal Computers," Annual Computer Security Applications Conference (ACSAC-21), Tucson, AZ, (December 2005).
169. W. Cui, V. Paxson, N. Weaver, R. H. Katz, "Protocol-Independent Adaptive Replay of Application Dialog," 13th Annual Network and Distributed System Security Symposium (NDSS'06), San Diego, CA, (February 2006).

170. L. Yin, S. Uttamchandani, R. H. Katz, "SmartMig: Risk-modulated Proactive Data Migration for Maximizing Storage System Utility," NASA/IEEE Conference on Mass Storage Systems and Technologies (MSST2006), College Park, MD, (May 2006).
171. L. Yin, S. Uttamchandani, R. H. Katz, "SMART: An Integrated Multi-Action Advisor For Storage Systems," USENIX'06 Annual Technical Conference, Boston, MA, (May 2006).
172. L. Yin, S. Uttamchandani, J. Porter, R. H. Katz, "AutoLoop: Automated Action Selection in the Observe-Analyze-Act Loop for Storage Systems," Proceedings Workshop on Policies for Distributed Systems (POLICY), Stockholm, Sweden, (June 2006).
173. L. Yin, S. Uttamchandani, R. H. Katz, "An Empirical Exploration of Black-Box Performance Models for Storage Systems," Proceedings Conference on Measurement and Simulation of Computer and Telecommunication Systems (MASCOTS) 2006 Conference, Monterey, CA, (September 2006).
174. F. Yu, T. Lakshman, R. H. Katz, "Fast and Memory-Efficient Regular Expression Matching for Deep Packet Inspection," Proceedings Symposium on Architectures for Networking and Communications Systems (ANCS), San Jose, CA, (December 2006).
175. R. Fonseca, G. Porter, R. H. Katz, S. Shenker, I. Stoica, "X-Trace: A Pervasive Network Tracing Facility," Fourth USENIX Symposium on Networked Systems Design and Implementation (NSDI 2007), Cambridge, MA, (April 2007).
176. Y. Chen, T. Wang, R. H. Katz, "Energy Efficient Ethernet Encodings," Conference on Local Computer Networks, Montreal, Canada, (Oct 2008). Submitted.
177. G. Ananthanarayanan, R. H. Katz, "Greening the Switch," OSDI'08, San Diego, CA, (December 2008), Submitted.
178. M. Zaharia, A. Konwinski, A. D. Joseph, R. H. Katz, I. Stoica, "Improving MapReduce Performance in Heterogeneous Environments," OSDI'08, San Diego, CA, (December 2008). Submitted.

B. Non-refereed Publications

Conference and Symposium Proceedings

1. Katz, R. H., "Heterogeneous Databases and High Level Abstraction," Proceedings of Workshop on Data Abstraction, Databases, and Conceptual Modelling, Special Joint Issue of SIGART, SIGMOD, SIGPLAN Newsletters, (January 1981).
2. Katz, R. H., "Tools for System Level Design, Test, and Debug," Proceedings I.E.E.E. Workshop on the Intersection of VLSI and Software Engineering, Rye, NY, (October 1982).
3. Weiss S., R. H. Katz, "Recovery of In-Memory Data Structures for Interactive Update Applications," Proceedings Spring COMPCON Conference, San Francisco, CA, (February 1984). Invited Paper.
4. Katz, R. H., "New Applications of Database Technology: Computer-Aided Design Databases," Proceedings NYU Symposium on New Directions for Database Systems, New York, NY, (May 1984). Also in *New Directions for Database Systems*, G. Ariav, J. Clifford, eds., Ablex Publishing Co., Norwood, N.J., (1986). Invited Paper.
5. Borriello, G., R. H. Katz, "VLSI Prototyping in a MultiBus Environment," Proceeding Spring Computer Conference, San Francisco, CA, (February 1985). Invited Paper.
6. Bobrow, D. G., R. H. Katz, "Context Structures/Versioning: A Survey," Proc. Islamorada Workshop on Large Scale Knowledge Base and Reasoning Systems, Islamorada, FL, (February 1985). Invited Paper. Also in *On Knowledge Base Management Systems*, M. L. Brodie, J. Mylopoulos, eds., Springer Verlag, New York, 1986.
7. Katz, R. H., M. Anwarudin, E. Chang, "Organizing a Design Database Across Time," Proc. Islamorada Workshop on Large Scale Knowledge Base and Reasoning Systems, Islamorada, FL, (February 1985). Invited Paper. Also in *On Knowledge Base Management Systems*, M. L. Brodie, J. Mylopoulos, eds., Springer Verlag, New York, 1986.
8. Katz, R. H., "Reduced Instruction Set Computers: A Revolution in the Microprocessor Marketplace," Panel Session Overview, *Digest of Papers of International Solid State Circuits Conference*, Anaheim, CA, (February 1986).
9. Katz, R. H., "Engineering Design Data Management," Research Highlight, *EECS/ERL 1986 Research Summary*.
10. Katz, R. H., D. A. Patterson, "A VLSI RISC Multiprocessor Workstation," Proceedings Intl. Conf. on Computer Design, Rye, NY, (October 1986). Invited Paper.
11. Katz, R. H., "Inheritance Semantics for Computer-Aided Design Databases," Proceedings 1986 International Workshop on Object-Oriented Database Systems, Asilomar, CA, (September 1986). Position Statement.

12. Katz, R. H., "Rapid Prototyping of Experimental Systems: Design Tools and Methodologies," Workshop on Rapid Prototyping of Experimental Digital/Analog Systems, Pittsburgh, PA, (December 1986).
13. S. Kong, D. Wood, G. Gibson, R. Katz, D. Patterson, "Design Methodology of a VLSI Multiprocessor Workstation," *VLSI Design Magazine*, (February 1987).
14. G. Borriello, R. H. Katz, "A Tool for the Rapid Prototyping of System Interface Transducers," Proceedings IFIP WG10.5 Workshop on Fast Prototyping, Grenoble, France, (March 1987). Invited Paper.
15. D. A. Wood, S. J. Eggers, G. A. Gibson, D. K. Jeong, R. H. Katz, D. A. Patterson, "The SPUR Cache Controller/MMU," I.E.E.E. SouthCon'88, Orlando, FL, (February 1988). Invited Paper.
16. M. Tokoro, C. Forgy, J. Gurd, R. Katz, H. T. Kung, H. Tanaka, "Parallelism: Are We Still Interested?," *Journal of Information Processing*, Information Processing Society of Japan, V. 10, N. 2, 1987. Transcript of Panel Session at 13th Annual Symposium on Computer Architecture, Tokyo, Japan, (August 1986).
17. R. H. Katz, J. K. Ousterhout, D. A. Patterson, M. R. Stonebraker, "A Project on High Performance I/O Subsystems," I.E.E.E. Computer Society Technical Committee on Database Engineering Newsletter, V 11, N 1, (March 1988). Invited Paper.
18. D. Patterson, P. Chen, G. Gibson, R. Katz, M. Schulze, "An Introduction to RAIDs," Proceedings Spring COMPCON Conference, San Francisco, CA, (March 1989). Invited Paper.
19. M. Schulze, G. Gibson, R. Katz, D. Patterson, "How Reliable is a RAID?," Proceedings Spring COMPCON Conference, San Francisco, CA, (March 1989). Invited Paper.
20. R. H. Katz, "High Performance VLSI Processor Architecture," Proceedings 1989 Symposium on VLSI Circuits, Kyoto, Japan, (May 1989). Invited Paper.
21. R. H. Katz, "Trends in Disk System Architecture," *UNIX Review Magazine*, (September 1989). Invited Paper.
22. R. H. Katz, et. al., "A Project on High Performance I/O Subsystems," ACM Computer Architecture News, (October 1989). Invited Paper.
23. R. H. Katz, D. A. Patterson, "Roboline Storage," Proceedings Spring COMPCON Conference, San Francisco, CA, (March 1992). Invited Paper.
24. J. Pasquale, J. Dozier, R. H. Katz, "The Redwood Project," Proceedings Spring COMPCON Conference, San Francisco, CA, (March 1995). Invited Paper.
25. E. Brewer, T. Burd, F. Burghardt, A. Burstein, R. Doering, K. Lutz, S. Narayansaramy, T. Pering, B. Richards, T. Truman, R. Katz, J. Rabaey, R. Brodersen, "Design of Wireless Portable Systems," Proceedings Spring COMPCON Conference, San Francisco, CA, (March 1995). Invited Paper.
26. R. H. Katz, E. A. Brewer, E. Amir, H. Balakrishnan, A. Fox, S. Gribble, T. Hodes, D. Jiang, G. Nguyen, V. Padmanabhan, M. Stemm, "The Bay Area Research Wireless Access Network," Proceedings 1996 IEEE Spring Computer Conference, Santa Clara, CA, (February 1996). Invited Paper.
27. R. H. Katz, "Professor Katz Went To Washington," *Communications of the ACM*, Viewpoint, V 39, N 5, (May 1996), pp. 13-17.
28. S. McCanne, E. Brewer, R. Katz, L. Rowe, E. Amir, Y. Chawathe, A. Coopersmith, K. Mayer-Patel, S. Raman, A. Schuett, D. Simpson, A. Swan, T-L Tung, D. Wu, B. Smith, "Toward a Common Infrastructure for Multimedia-Networking Middleware," Seventh International Workshop on Network and Operating System Support for Digital Audio and Video, St. Louis, (May 1997). Invited Paper.
29. M. Stemm, H. Balakrishnan, S. Seshan, V. Padmanabhan, R. H. Katz, "TCP Improvements for Heterogeneous Networks: The Daedalus Approach," Proceedings Allerton Conference, Urbana, IL, (September 1997). Invited Paper.
30. R. H. Katz, "Beyond Third Generation Telecommunications Infrastructures," ACM Sigmobline Newsletter, V. 2, N. 2, (April 1998), pp. 1-5. Invited Paper based on ACM Mobicom Keynote Address, April 1998, pp. 1-5.
31. T. Hodes, R. H. Katz, "Enabling 'Smart Spaces:' Entity Description and User Interface Generation for a Heterogeneous Component-Based Distributed System," Position Statement, DARPA Workshop on Smart Spaces, Arlington, VA, (August 1998).

Technical Reports

1. Wong, E., Katz, R. H., "Design Goals for Relational and DBTG Databases," University of California, Berkeley/Electronics Research Laboratory Memo No. M78/89, (December 1978).
2. Katz, R. H., E. Wong, "Heterogeneous Data Models - Part I Semantic Issues," University of California, Berkeley/Electronics Research Laboratory Memo No. M79/56, (August 1979).
3. Katz, R. H., "Database Design and Translation for Multiple Data Models," University of California, Berkeley/Electronics Research Laboratory Memo No. M80/24, (June 1980).

4. Katz, R. H., "Proposal and Response to Solicitation No. F30602-81-R-0005 (Rome Air Development Center) Database Manipulation Study", Computer Corporation of America Research Proposal, (December 1980).
5. Katz, R. H., "A Research and Development Program in Distributed Database Technology (Defense Advanced Research Projects Agency)," Computer Corporation of America Research Proposal, (February 1981).
6. Katz, R. H., "Heterogeneous Database Systems: A Taxonomy and Technological Survey," Computer Corporation of America Technical Report, (March 1981).
7. Katz, R. H., N. Goodman, T. Landers, J. Smith, L. Yedwab, "Database Integration and Incompatible Data Handling in MULTIBASE — A System for Integrating Heterogeneous Distributed Databases," Computer Corporation of America Technical Report, (May 1981).
8. Katz, R. H., T. Lehman, "Storage Structures for Versions and Alternatives," University of Wisconsin Computer Sciences Technical Report #479, (July 1982).
9. Katz, R. H., "DAVID -- Design Aids for VLSI using INGRES Databases," I.E.E.E. Computer Society Technical Committee on Database Engineering Newsletter, V 5, N 2, (June 1982).
10. Katz, R. H., J. Moran, U. Ramachandran, D. Schuh, "Experiences in Porting and Extending CAD Software," University of Wisconsin-Madison Computer Sciences Technical Report #484, (September 1982). Also appeared as "'Big Caesar' and 'Little Caesar': Adventures in Modifying and Extending CAD Software," *VLSI Design Magazine*, January/February 1983.
11. Katz, R. H., S. Weiss, "Transaction Management for Design Databases," University of Wisconsin-Madison Computer Sciences Technical Report #496, (February 1983).
12. Katz, R. H., "Database Management and Computer-Assisted VLSI Fabrication," I.E.E.E. Computer Society Technical Committee on Database Engineering Newsletter, V 7, N 2, (June 1984).
13. Borriello, G., S. Eggers, R. H. Katz, H. McKinley, C. Perkins, W. Scott, R. Sheldon, S. Whalen, D. Wood, "Design and Implementation of an Integrated Snooping Data Cache," Report No. UCB/CSD 85/199, (January 1985).
14. Katz, R. H., S. J. Eggers, G. A. Gibson, P. M. Hansen, M. D. Hill, J. M. Pendleton, S. A. Ritchie, G. S. Taylor, D. A. Wood, D. A. Patterson, "Multiprocessor RISCs: Memory Hierarchy Design Issues and Analyses," Report No. UCB/CSD 85/221, (January 1985).
15. Katz, R. H., ed., "Proceedings of CS 292i: Implementation of VLSI Systems (Spring 1985)," Report No. UCB/CSD 86/259, (September 1985).
16. Katz, R. H., "Migrating VLSI into the Undergraduate Curriculum: Course Notes for a Digital Logic Design Course", Report No. UCB/CSD 88/449, (September 1988).

C. Books

1. Kim, W., D. Batory, A. Hevner, R. Katz, D. Reiner, eds., *Database Engineering, Volume 1*, I.E.E.E. Computer Society Press, Silver Spring, MD, I.E.E.E. Catalog No. EH0203-0, 1983.
2. Batory, D. S., R. H. Katz, D. R. Ries, D. Reiner, eds., *Database Engineering, Volume 3*, I.E.E.E. Computer Society Press, Silver Spring, MD, I.E.E.E. Catalog No. EH0233-7, 1984.
3. Katz, R. H., *Information Management for Engineering Design*, Springer-Verlag Computer Science Surveys Series, Springer-Verlag, Heidelberg, 1985. Republished in Japanese translation by Kindai Kagaku Sha, Tokyo, Japan, 1988.
4. Katz, R. H., "Design Database," in *Advances in CAD for VLSI, Vol. 6: Design Methodology*, S. Goto, ed., North-Holland Publishing Co., Amsterdam, 1986.
5. R. H. Katz, E. Chang, "Inheritance Issues in Computer-Aided Design Databases," in *Object-Oriented Database Systems*, K. Dittrich, U. Dayal, eds., Springer Verlag, Berlin, 1992.
6. T. F. Chiueh, R. H. Katz, V. King, "Managing the VLSI Design Process," book chapter in *Lecture Notes in Computer Science #492: Computer-Aided Collaborative Product Development*, S. Sriram, R. Logcher, eds., Springer Verlag, Berlin, 1991.
7. T. F. Chiueh, R. H. Katz, V. King, "A History Framework for Managing VLSI Design Process," in *Electronic Design Automation Frameworks*, F. J. Ramming, R. Waxman, eds., North-Holland Publishing Co., Amsterdam, 1991.
8. R. H. Katz, "Basic Disk System Architecture," in the *EE Handbook*, R. C. Dorf, ed., CRC Press, 1993.
9. R. H. Katz, *Contemporary Logic Design*, Benjamin-Cummings/Addison-Wesley Publishing Co., 1994. Adopted for use by over 200 colleges and universities.
10. R. H. Katz, R. J. Thomas, J. G. Tront, "New Paradigms for Engineering Education Using the National Information Infrastructure and Electronically Mediated Instruction", in Bourne, J. R., Brodersen, A. J. and Dawant, M. (eds.), *The Influence of Technology on Engineering Education*, CRC Press, 400 pages, 1995.

11. R. H. Katz, "ARPA's Prospective of Defense Conversion Opportunities in the Wireless Industry," in *Wireless Personal Communications: Research Developments*, B. D. Woerner, T. S. Rappaport, J. H. Reed, eds., Kluwer Academic Publishers, Boston, MA, 1995.
12. R. H. Katz, E. Brewer, "The Case for Wireless Overlay Networks," *Mobile Computing*, T. Imielinski and H. Korth, eds., Kluwer Academic Publishers, Boston, MA, 1995.
13. D. Goodman, N. Abramson, E. Cacciamani, J. Engel, M. Epstein, B. Fette, D. Fields, B. Gavish, A. Goldsmith, R. H. Katz, E. Kelley, K. Pahlavan, C. Perkins, T. Rappaport, J. Russell, *The Evolution of Untethered Communications*, National Research Council Press, 1997.
14. R. H. Katz, M. Gerla, "Multimedia Wireless and Mobile Networks," in *Multimedia Networking*, T. Mallikarjun, ed., Artech House Publishers, Boston, 1998.
15. R. H. Katz, W. L. Scherlis, S. L. Squires, "The National Information Infrastructure: A High Performance Computing and Communications Perspective," in *White Papers, The Unpredictable Certainty: Information Infrastructure Through 2000*, National Research Council Press, Washington, 1998, pp. 315-334.
16. R. H. Katz, G. Borriello, *Contemporary Logic Design, Second Edition*, Prentice-Hall Publishing Co., Upper Saddle River, N.J., 2004.
17. Y. Matsunaga, R. H. Katz, "Inter-Domain Radio Resource Management for Wireless LANs," *Resource Management in Wireless Networking*, Kluwer Publishing, 2004.
18. D. Hutchison, R. H. Katz, eds., "Self-Organizing Systems," Springer Lecture Notes in Computer Science 4725, Springer Verlag, Berlin, 2007.
19. E. Benhamou, R. H. Katz, *Assessing the Information Technology Research and Development Ecosystem*, National Research Council Press, Washington DC, 2008.
20. F. Yu, R. H. Katz, T. V. Lakshman, "Fast Packet Pattern Matching Algorithms," in *Algorithms for Next Generation Network Architectures*, G. Carmode, M. Thottan, eds., Springer Computer Communications and Network Services Series, Springer Verlag, Berlin, 2009.