

Henry M. Levy

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Research Interests

Operating system design and organization, computer architecture, and the interaction of the two domains.

Education

1981, M.S., Computer Science, University of Washington
1974, B.S., Math/Computer Science, Carnegie-Mellon University

Employment

1999 - present: Microsoft Professor and Associate Chair, Dept. of Computer Science and Engineering, UW
1994 to 1999: Professor, Dept. of Computer Science and Engineering, University of Washington
1989 to 1994: Associate Professor, Dept. of Computer Science and Engineering, University of Washington
1983 to 1989: Assistant Professor, Dept. of Computer Science and Engineering, University of Washington
1979 to 1983: Consulting Engineer, VAX Systems Architecture Group, Digital Equipment Corporation
1975 to 1979: Principal Engineer, VAX/VMS (Version 1) Design and Implementation Team, Digital Equipment Corp.

Awards

Fellow of the Association for Computing Machinery (ACM): 1996.
Fulbright Research Scholar Award: 1992.
Outstanding Paper Award, ACM Symposium on Operating Systems Principles: 1985, 1987, 1989, 1991, 1999.
Outstanding Paper Award, ACM Int. Conf. on Measurement and Modeling of Computer Systems: 1989

Selected Publications

Y. Saito, B. Bershad, and H. Levy. "Manageability, Availability, and Performance in Porcupine: A Highly-Scalable Internet Mail Service," *17th ACM Symposium on Operating Systems Principles* (December 1999). [Award paper]
A. Wolman, G. Voelker, N. Sharma, N. Cardwell, A. Karlin, and H. Levy. "On the Scalability and Performance of Cooperative Web Proxy Caching," *17th ACM Symposium on Operating Systems Principles* (December 1999).
J. L. Lo, S. Parekh, S. Eggers, H. Levy, and D. Tullsen. "Software-Directed Register Deallocation for Simultaneous Multithreaded Processors," *IEEE Trans. on Parallel and Distributed Systems* (September 1999).
J.L. Lo, L. Barroso, S.J. Eggers, K. Gharachorloo, H.M. Levy and S.S. Parekh, "An Analysis of Database Workload Performance on Simultaneous Multithreaded Processors", *Int. Symp. on Computer Architecture* (June, 1998).
J.L. Lo, S.J. Eggers, J.S. Emer, H.M. Levy, R.L. Stamm and D.M. Tullsen, "Converting Thread-level Parallelism into Instruction-level Parallelism via Simultaneous Multithreading," *ACM Trans. on Computer Systems* (Aug., 1997).
D.M. Tullsen, S.J. Eggers and H.M. Levy, "Simultaneous Multithreading: Maximizing On-chip Parallelism," *Int. Symposium on Computer Architecture* (June, 1995). [Selected for the 25th Anniversary ISCA Anthology.]
J. Chase, H. Levy, M. Feeley, and E. Lazowska. "Sharing and Protection in a Single Address Space Operating System," *ACM Trans. on Computer Systems* (November, 1994).

- T. Anderson, B. Bershad, H. Levy, E. Lazowska. "Scheduler Activations: Kernel Support for Effective User-Level Thread Management," *ACM Trans. on Computer Systems* (February 1992). [Award paper]
- T. Anderson, H. Levy, B. Bershad, and E. Lazowska. "The Interaction of Architecture and Operating System Design," *4th Int. Conference on Architectural Support for Programming Languages and Operating Systems* (April, 1991).
- T. Anderson, E. Lazowska, and H. Levy. "The Performance Implications of Thread-Management Alternatives for Shared-Memory Multiprocessors," *IEEE Trans. on Computers* (December, 1989).

Partial List of Doctoral Students:

Geoff Voelker (UCSD), Jack Lo (Transmeta, Inc.), Dean Tullsen (UCSD), Mike Feeley (UBC), Brian Bershad (UW), Tom Anderson (UW), Norm Hutchinson (UBC), Jeff Chase (Duke), Chandu Thekkath (Compaq/DEC SRC), Eric Jul (U. of Copenhagen).

Selected Grants

- National Science Foundation, Co-Principal Investigator (with E. Lazowska and J. Zahorjan), Grant No. CCR-9200832: System Support for High Performance Computing, \$1,984,000 (including 20% UW contribution), July 1992 - June 1996.
- National Science Foundation, Project Director and Co-Principal Investigator (with R. Anderson, A. Borning, T. DeRose, E. Lazowska, D. Notkin, L. Snyder, S. Tanimoto, and J. Zahorjan), Grant No. CDA-9123308: High Performance Parallel/Distributed Computing (II Program), \$1,600,000 (including 25% UW contribution), July 1992 - June 1996.
- National Science Foundation, Co-Principal Investigator (with A. Karlin), Grant No. CCR-9632769: Distributed Resource Management in Workstation and PC Clusters, \$202,408, July 1996 - June 1998.
- National Science Foundation, Co-Principal Investigator (with S. Eggers), Grant No. MIP-9632977: Simultaneous Multithreading, \$880,000, August 1996 - July 1999.
- DARPA, Co-Principal Investigator (with B. Bershad), Grant F30602-97-2-0226: Operating System Services for Networked Clusters, \$1,877,600, June 1997 - May, 2000.
- National Science Foundation, Co-Principal Investigator (with A. Karlin, T. Anderson, and R. Ladner), Grant No. EIA-9870740: Resource Management in Local-Area and Wide-Area Networks, July 1998 - June 2001, \$870,336

Selected Professional Activities

- Chairman, ACM Special Interest Group on Operating Systems (SIGOPS), 1991 - 1995.
- Secretary/Treasurer, ACM Special Interest Group on Operating Systems, 1987 - 1991.
- Fulbright Award Computer Science Selection Committee: 1994 -- present.
- Program Chair, 16th ACM Symp. on Operating Systems Principles, 1997.
- Program Chair, IEEE Workshop on Hot Topics on Operating Systems, 1995
- Program Chair, 5th ACM/IEEE Int.Conf. on Architectural Support for Programming Languages and Operating Systems, 1992.
- Associate Editor, *ACM Trans. on Computer Systems*, 1993-1997.
- Program Committees: HPCA, SOSP, ISCA, ASPLOS.
- Local Arrangements Chair: ISCA 1990, SOSP 1985.