

## Robert (“Bob”) Braden

### Contact Information

USC Information Sciences Institute  
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### Education

Cornell University	Engineering Physics	1957 BEP
Stanford University	Physics	1959 MS Physics

### Appointments

*1986 – Present:*

USC Information Sciences Institute, Computer Networks Division  
Supervising Computer Scientist and Project Leader.

*1968-1986*

UCLA, Campus Computing Network  
1975-1986: Project Director for Software Research  
1968-1974: Manager of Programming

*1981-1982: (On leave from UCLA)*

University College London, Computer Science Department  
Senior Research Associate

*1965-1968:*

Stanford University, Computation Center  
1965-1967: Associate Director, SLAC Facility  
1967-1968: Senior Research Staff

*1962-1965:*

Carnegie Institute of Technology  
Assistant Professor, Computation Center

### Awards

ISI Fellow: 2001  
ACM Fellow: 1998

### Service to networking community:

Member of the Internet Activities Board (IAB) from its inception in 1981 until its demise in 1994. Served as Executive Director of the IAB for 5 years.

Chaired the End-to-End Task Force/Research Group, 1984-2005.

Playing a lead role in the RFC Editor function, 1988-present.

Co-chaired the RSVP Working Group of the IETF, 1993-1998.

### **Publications**

Braden, R., Faber, T., Handley, M., "From Protocol Stack to Protocol Heap – Role-based Architecture." Proc. Hotnets I, Princeton NJ, October 2002.

Clark, D., Braden, R., Falk, A., Pingali, V., "FARA: Reorganizing the Addressing Architecture", Proc. FDNA-03 workshop, ACM SIGCOMM 2003, August 2003.

Clark, D., Wroclawski, J., Sollins, K., Braden, R., "Tussle in Cyberspace: Defining Tomorrow's Internet." Proc. ACM SIGCOMM 2002, August 2002.

Benzel, T., Braden, R., Kim, D., Neumann, C., Joseph, A., Sklower, K., Ostrenga, R., Schwab, S., "Experience with DETER: A Testbed For Security Research." Tridentcom 2006.

Berson, S., Braden, R., Dawson, S., "Evolution of an Active Networks Testbed." Proc. DARPA Active Networks Conference and Exposition (DANCE), San Francisco CA, May 2002. Published by IEEE.

Braden, R., Lindell, B., Berson, S., Faber, T., "The ASP EE: An Active Network Execution Environment." Proc. DARPA Active Networks Conference and Exposition (DANCE) 2002, San Francisco CA, May 2002. Published by IEEE.

Braden, R., "The First 31 Years of the Internet -- An Insider's View." Fellow Talk, USC Information Sciences Institute, May 2001.

Terzis, A., Braden, B., Vincent, S., Zhang, L., "RSVP Diagnostic Messages." RFC 2745, January 2000.

Braden, B., Clark, D., Crowcroft, J., Davie, B., Destrin, D., Floyd, S., Jacobson, V., Minshall, G., Partridge, C., Peterson, L., Ramakrishnan, K., Shenker, S., Wroclawski, J., Zhang, L., "Recommendations on Queue Management and Congestion Avoidance in the Internet." RFC 2309, April 1998.

Braden, R., Editor, Zhang, L., Berson, S., Herzog, S., Jamin, S., "Resource ReSerVation Protocol (RSVP)." RFC 2205, September 1997.

Braden, R., "T/TCP -- TCP Extensions for Transactions – Functional Specification". RFC 1644, July 1994.

Braden, R., Clark, D., Crocker, S., Huitema, C., "Report of IAB Workshop on Security in the Internet Architecture". RFC 1636, June 1994.

Braden, R., Clark, D., S. Shenker, "Integrated Services in the Internet Architecture." RFC 1633, June 1994.

Braden, R., "Extending TCP for Transactions -- Concepts." RFC1379, November 1992.

Jacobson, V., Braden, R., Borman, D., "TCP Extensions for High Performance." RFC 1323, May 1992.

Braden, R., "TIME-WAIT Assassination Hazards in TCP." RFC 1337, May 1992.

Braden, R., "A Perspective on the Host Requirements RFCs". RFC 1127, October 1989.

Braden, R., Ed., "Requirements for Internet Hosts." RFC 1122, RFC 1123, October 1989.

Braden, R., Borman, D., and C. Partridge, "Computing the Internet Checksum". ACM SIGCOMM Computer Communication Review, Vol. 19, No. 2, April 1989.

Jacobson, V. and Braden, R., "TCP Extensions for Long-Delay Paths". RFC-1072, October 1988.

Braden, R., "A Pseudo-Machine for Packet Monitoring and Statistics". Proc. ACM SIGCOMM '88, August 1988.

DeSchon, A and Braden, R., "Background File Transfer Program (BFTP)". RFC 1068, August 1988.

Braden, R., "End-to-End Protocols -- Progress and Prospects". Talk delivered to the Second TCP/IP Interoperability Workshop, Crystal City, VA, December 1987.

Braden, R., "Advances in Internet Architecture". Tutorial talk to NSFnet Technical Workshop, Cornell University, August 1987.

Braden, R. and Postel, J., "Requirements for Internet Gateways". RFC-1009, June 1987.

Braden, R., "The Internet Architecture". Talk to Uniforum conference, Washington. D.C., January 1987.

Braden, R., "Final Technical Report -- Continued Development of Internet Protocols under the IBM OS/MVS Operating System". Technical Report TR55, UCLA Office of Academic Computing, March 1986.

Braden, R., "Technical Overview of the UCLA ARPANET Control Program for OS/MVS Using Internet Protocols TCP/IP". Technical Report TR35, UCLA Office of Academic Computing, February 1986.

Braden, R., "SMTP Implementation Within the UCLA ACP". Technical Report TR49, UCLA Office of Academic Computing, December 1985.

Braden, R., "Towards a Transport Service for Transaction Processing Applications". RFC 955, September 1985.

Braden, R., Cole, R., Higginson, P., Lloyd, P, "A Distributed Approach to the Interconnection of Heterogeneous Computer Networks", ACM SIGCOMM 1983, March 8-9, 1983, Austin, Texas.

Braden, R., "Backup Access to the European Side of SATNET." RFC 831, December 1982.

Braden, R., and Cole, R., "Some Problems in the Interconnection of Computer Networks". International Conference on Computer Communication, London, Sept 7-10, 1982.

Braden, R., "NETRJS Protocol." RFC 740, November 1977.

Braden, R., "A Server Host System on the ARPANET." Proc. Fifth Data Communications Symposium, Snowbird, Utah, 1977.

Rivas, L., Ludlam, H., Braden, R., "An IBM 360 Implementation of the MSG Interprocess Communication Protocol." CCN Technical Report # TR12, Campus Computing Network, UCLA, May 1977.

Braden, R., Ludlam, H., "An IP Server for the NSW." CCN Technical Report # TR7, Campus Computing Network, UCLA, April 1976.

Braden, R., Feigin, S., "Programmers' Guide to the Exchange." CCN Technical Report # TR5, Campus Computing Network, UCLA, March 1972.

Bhushan, A., Braden, B., Crowther, W., Harslem, E., Heafner, J., McKenzie, A., Melvin, J., Sundberg, B., Watson, D., White, J., "The File Transfer Protocol", RFC 265, November 1971.

Braden, R., "NETCRT - A Character Display Protocol." RFC 205, August 1971.

Braden, R., "Interim NETJRS Specifications." RFC 189, July 1971.

Braden, R., Wolfe, S., "NETRJS: A third level protocol for Remote Job Entry." RFC 88, January 1971.