

Robert M. Metcalfe

Born 1946, Brooklyn, N. Y.; Principal inventor of Ethernet, the local-area networking technology for which he shares four patents.



Education: BS, electrical engineering and management, MIT, 1969; MS, applied mathematics, Harvard University, 1970; PhD, computer science, MIT, 1973.

Professional Experience: Xerox Palo Alto Research Center: Computer Science Laboratory, 1972-1976, manager, Microprocessor and Communication Developments, 1976-1979; founder, 3Com Corporation, 1979-1990.

Honors and Awards: ACM Grace Murray Hopper Award, 1980; IEEE Alexander Graham Bell Medal, 1988.

Robert M. Metcalfe was born in 1946 in Brooklyn, New York. He graduated in 1969 after five years at the Massachusetts Institute of Technology, receiving bachelor's degrees in electrical engineering and in management. From Harvard University in 1970 he received a master's degree in applied mathematics, and in 1973 he received a PhD in computer science for work at MIT Project MAC on packet switching in the Arpanet and Alohanet, and for his thesis, *Packet Communication*.

Metcalfe joined the Xerox Palo Alto Research Center's Computer Science Laboratory in 1972. In 1973 he was the principal inventor of Ethernet, the local-area networking technology for which he shares four patents. While at PARC he taught part-time at Stanford University for seven years, ending in 1982 as consulting associate professor of electrical engineering with a new course on distributed computing.

In 1976 Bob moved to manage microprocessor and communication developments leading to the Xerox Star workstation. He left Xerox in 1979 to promote local-area networks and especially Ethernet, which has become an international standard, and is today by far the world's most widely installed LAN. Also in 1979, Bob founded 3Com Corporation, which has grown past \$400M in annual sales, with more than 2,000,000 of its Ethernet personal computer LAN adapters installed worldwide, and now more than 100,000 being added each month. During his 11 years at 3Com, from inception until retirement in June 1990, Bob held various positions including chairman of the board of directors, chief executive officer, president, vice president of engineering, vice president of sales and marketing, chief technical officer, and general manager consecutively of the software, workstation, and hardware divisions.

In 1980 Metcalfe received the ACM Grace Murray Hopper Award, and in 1988 the IEEE Alexander Graham Bell Medal, both for his invention, standardization, and commercialization of local-area networks. His publications include "Ethernet: Distributed Packet Switching for Local Computer Networks," with David Boggs in *Communications of the ACM* July 1976), and an invited paper, "Local Networks of Personal Commuters," at the IFIP 9th World Computer Congress, Paris, 1983.

Metcalfe served for a year with the Executive Office of the President's Advisory Committee on Information Networks, and then for two years on the National Research Council's Computer Science and Technology Board.

For two years he was chairman of the Corporation for Open Systems, promoting worldwide computer and telephone networking standards.

BIBLIOGRAPHY

Biographical

Metcalfe, R.A.T., "How Ethernet was Invented," *Ann. Hist. Comp.*, Vol. 16, No. 4, 1994, pp. 81-88.

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