

Profile; For 'Father of the Internet,' New Goals, Same Energy

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CALL it luck or call it prescience. But Vinton G. Cerf, a computer scientist as comfortable in an academic setting as he is in private industry, seems to make a success of nearly everything he touches. And when he returned to MCI in January after an eight-year absence, he was, by his own account, eager to build something again.

More than a decade ago, when the commercial prospects for electronic mail were far from certain, Dr. Cerf was the principal engineer of MCI Mail, now one of the nation's largest E-mail systems. Now Dr. Cerf, known throughout the industry as the primary force behind the development of the Internet, is helping the MCI Communications Corporation in an ambitious six-year, \$20 billion project called networkMCI.

The man who brought Dr. Cerf back into the MCI fold is J. Robert Harcharik, who worked with Dr. Cerf on MCI Mail. After Mr. Harcharik returned from retirement a year ago as MCI's general manager for data services, he wasted no time seeking out Dr. Cerf. But prying him loose from the Corporation for National Research Initiatives, a nonprofit organization that he helped start with Robert E. Kahn in 1986, wasn't easy. Dr. Cerf was steeped in the design of an experimental national "information infrastructure," a term coined by Dr. Kahn.

After several months, Mr. Harcharik finally persuaded Dr. Cerf to return. "After a lot of soul-searching," said Dr. Cerf, who is 51, "I concluded the right thing to do was go back into the private sector and take all I'd learned about information infrastructure and turn it into something people could use."

Luring Dr. Cerf back was a public relations coup of sorts for MCI as it started positioning itself to take advantage of the convergence of video, voice and data. The building of networkMCI involves the installation of high-speed switching, fiber-optic and wireless transmission systems, with the eventual aim of melding existing long-distance voice and data services with a new local phone network.

Although MCI has revealed few specifics about networkMCI, some pieces are falling into place. Earlier this month, the company announced a personal computer-based service that takes MCI beyond long-distance service and into multimedia software. Called networkMCI Business, the Windows-based package allows users to send E-mail and faxes, gather news, conduct videoconferencing, create electronic sales catalogues and gain access to the Internet.

MCI is pouring millions into advertising networkMCI, with its most visible spokeswoman the 12-year-old New Zealand actress Anna Paquin, who won an Oscar for her supporting role in "The Piano." In a series of recent television commercials, Anna is seen on a rocky shore and in snowy woods, dressed in a flowing black cape, offering verbal puzzlers like this: "There will be a road that will not connect two points. It will connect all points." And this: "There will be no more there. We will all only be here."

The television spots may seem abstruse to some viewers, but not to Dr. Cerf. What Anna Paquin says "makes a lot of sense," said Dr. Cerf. "When you're in a fully networked environment, there isn't much in the way of 'there.' "

Dr. Cerf's presence at MCI has attracted a number of talented system designers, several of them from the Internet community's technical inner circle. "There are people coming here just to spend a few years working with Vint Cerf," Mr. Harcharik said.

Dr. Cerf, whose official title is senior vice president for data architecture, oversees a group of engineers who help to shape the company's data services, both existing and planned. He also spends a great deal of time traveling the globe to speak to industry groups and meet with MCI's sundry foreign customers and business partners.

"People are increasingly mixing together services," Dr. Cerf said. "People in business would like to buy a very fat pipe through which they pump everything -- voice, data, video, E-mail and faxes -- rather than using separate connections."

Designing that pipe and making it work is Dr. Cerf's job. His group at MCI is responsible for determining when and how various services can be made to work together. By way of example, Dr. Cerf pointed to a new data service that allows people with modems to plug into cellular phones and connect to MCI's data network. Dr. Cerf's group is working on adding Internet access to this service.

His task isn't easy. Since the early days of networking, the competition has grown fierce among long-distance carriers, cable companies and regional phone companies for a piece of the information superhighway. MCI, Bell Atlantic, Ameritech, Pacific Telesis and Time Warner say they plan to spend a total of nearly \$100 billion over 15 years on building an advanced data network.

But MCI has had some early breaks. In February, the National Science Foundation said it intended to select MCI to build a key component in an upgrade of its data network. The service, which will link the nation's five supercomputer centers, will initially run at 155 megabits a second, fast enough to transmit the entire oeuvre of Isaac Asimov in one second. MCI is positioning the service as the backbone for the Internet in the next century. "The Internet is running on all eight cylinders," said Richard T. Liebhaber, MCI's chief strategy and technology officer. "Now we need to figure out what the 16-cylinder engine looks like."

DR. CERF is perhaps best known for the work he has done developing the Internet. Most industry insiders say his efforts to develop global

standards for transmitting data have proved indispensable to the Internet's growth. He has been called the Father of the Internet, and the King of the Internet.

"There have been many people responsible for the development of the Internet and internetworking technology, but it simply would not have occurred without Vint," said Tony Rutkowski, executive director of the Internet Society. "For nearly 18 hours a day, every day for the past two decades, Vint has devoted constant energy to making it happen."

Dr. Cerf's friends tell of seeing him hounded for his autograph at computer conferences. But, characteristically humble, Dr. Cerf resists taking sole credit. "To say I'm personally responsible for what the Internet has become is not a fair characterization," Dr. Cerf said. "A number of people, in the thousands by now, have had some kind of impact on it."

Seeing the explosive growth of E-mail is particularly gratifying to Dr. Cerf, whose hearing has been severely impaired since birth. Although the loss has been largely corrected with hearing aids, which he has worn since age 13, telephone conversations can be awkward. "Sometimes I miss the name or someone expects to be recognized by voice," he said. "I may flounder a bit and often resort to tricks to figure out who the heck it is."

No tricks are required with E-mail. The ability to communicate over the computer, Dr. Cerf said, has helped him immeasurably. "E-mail has been vital to me for projects I have been involved in since about 1970," he said. "I sometimes wonder whether this aspect of networking has kept me close to the field for the last 25 years." Ever since the 1970's, Dr. Cerf has worked to encourage deaf people to use personal computers that handle E-mail.

Dr. Cerf's work in networking dates to 1969, when he was a graduate student in computer science at the University of California at Los Angeles. He was one of a handful of young programmers and hardware engineers involved in the installation of the first "node" of the original, four-node ARPAnet, the precursor to the Internet.

He has been involved in networking ever since, his work intensifying with the evolution of the Internet. Dr. Cerf's principal contribution has been his work on TCP/IP, the common language spoken by computers throughout the Internet, a language Dr. Cerf developed with Dr. Kahn. Dr. Cerf recalls that the first work on that language came from "literally sketching the idea out on the back of an envelope" in a San Francisco hotel in 1973 while he and Dr. Kahn attended a computer conference.

Dr. Cerf worked for years to get TCP/IP adopted as a standard. "The magic of Internet is that all the computers in the world use this very simple protocol," said Mr. Liebhaber. "And the magic of Vint Cerf is that he cajoled and negotiated and argued user communities into adopting it."

THE blue jeans typical of engineers are not for Dr. Cerf; he is seldom seen in anything but a three-piece suit. He is known for his dry, self-deprecating humor, and for his skills as a peacemaker. At a 1992 meeting that marked a pivotal juncture for the Internet Protocol, engineers were at one another's throats over a controversial issue. Dr. Cerf took the podium and announced that he had some informal remarks to make, and proceeded to strip. "I removed my coat, waistcoat, tie and finally my dress shirt," he recalled. He stopped when he reached a T-shirt emblazoned with "I P on Everything," an inside joke referring to the ubiquity of the Internet Protocol. The audience, he said, "went nuts," and the tension dissolved. One member of the audience rushed to the podium and placed a \$5 bill in Dr. Cerf's waistband.

Dr. Cerf continued his work in networks while an assistant professor at Stanford in the early 1970's, and in 1976 went to work for the Defense Advanced Research Projects Agency, leaving in 1982 to work for Mr. Harcharik on the design of MCI Mail.

As a condition for returning to MCI, Dr. Cerf insisted on retaining his post as president of the 4,000-member Internet Society, a global organization that develops standards and administers network activities. Although MCI has moved its data services division to Dallas, Dr. Cerf chose to stay in the Washington area; he works at a British Telecom building in Reston, Va.

Known for his unflagging energy, Dr. Cerf maintains a frenetic schedule, doing some of his best work, he said, between 3 and 5 a.m. The burden of constant travel is lightened by his love of food and fine wines. His trips are often punctuated by a luxurious meal with friends from the Internet community. "There are restaurateurs all over the world who hug Vint Cerf when they see him coming," said Mr. Harcharik.

During a recent trip to San Diego, Dr. Cerf and his friends were about to leave a tony restaurant after deciding the wine list was too weak. At this, the owner drove home and retrieved some bottles from his private cellar and returned with an armful of choice vintages. The group stayed.

The breathless pace of the Internet's growth, Dr. Cerf said, continues to astound him. "It's awfully hard to keep up just with the products," he said. "I spend my weekends hacking around, configuring Internet software. And it's not easy. I'm going to get a badge that says, 'It's still rocket science.'" Vinton G. Cerf Born: June 23, 1943; New Haven. Education: B.S., mathematics, Stanford; M.S. and Ph.D., computer science, U.C.L.A. Family: He and his wife, Sigrid L. Thorstenberg, have two sons, aged 15 and 21. Ideal vacation: Long cruise around the Caribbean or South Pacific with an unlimited supply of science fiction books. Last book read for pleasure: "Mars," by Ben Bova. Drives: Jaguar XJ6.

Katie Hafner is working on a book on the history of the Internet.