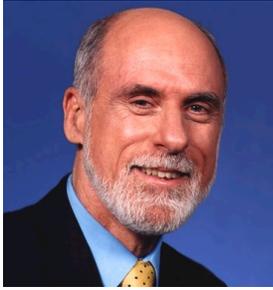# VINTON CERF, DOCTOR OF ENGINEERING & TECHNOLOGY

Vinton Cerf holds the title of vice president and chief Internet evangelist for Google Inc. and is hailed as a father of the Internet for his pivotal contribution to the creation, design, and implementation of Transmission Control Protocol and Internet Protocol (TCP/IP). He was awarded the nation's highest civilian honor, the Presidential Medal of Freedom in 2005 for bringing about a digital revolution that has "transformed global commerce, communication, and entertainment."

Mr. Cerf was born in New Haven, Connecticut, while his father served the Navy in the Second World War. The family relocated to Los Angeles and then the San Fernando Valley, where Mr. Cerf grew to develop a passion for math and science. As an eleventh grader at Van Nuys High School, he began computer programming at UCLA on weekends. He won a scholarship from North American Aviation to attend Stanford University, where he earned a bachelor's degree in mathematics in 1965. After working as a systems engineer at IBM on the programming language Quiktran, he returned to school at UCLA, earning master's and Ph.D. degrees in computer science in 1970 and 1972. At UCLA he worked on his dissertation under the direction of Professor Gerald Estrin and became involved with the ARPANET project in Professor Leonard Kleinrock's Network Measurement Laboratory. ARPANET was the precursor to the Internet.

It was during this time that he met Robert Kahn, with whom he has been associated ever since. In 1973, while Mr. Cerf was an assistant professor at Stanford, he and Kahn designed the pathbreaking protocols that allow computers to share digital data. TCP defines a standard way to package data and send it across the network, while IP handles the address of each packet and ensures that it is delivered to the right destination network and receiving host computer. From 1976 to 1982, Mr. Cerf worked closely with Kahn as a program manager, and eventually as principal scientist, at the Defense Department's Advanced Research Projects Agency (ARPA, now DARPA) on Internet development, packet radio, packet satellite, and packet security programs. Mr. Cerf then moved to MCI to work on the first commercial e-mail system to be connected to the Internet — MCI Mail. Three years later he returned to research and development and rejoined Kahn to found the Corporation for National Research Initiatives (CNRI). The two also founded the Internet Society in 1992 as an institutional home for the Internet Engineering Task Force, which sets technical standards for the Internet. Mr. Cerf served as the first president of the this society which addressed social and economic questions related to the Internet and played an instrumental role in educating the world about how to make the Internet work.

Mr. Cerf was a member of the President's Information Technology Advisory Committee and served as chairman of the board of the Internet Corporation for Assigned Names and Numbers from 2000 to 2007. In his current role at Google, he is responsible for identifying new enabling technologies to support the development of advanced, Internet-based products and services. A visionary thinker, he is also working on NASA Jet Propulsion Laboratory's Interplanetary Network, which seeks to extend the Internet to outer space.

For his achievements and contributions to society, Mr. Cerf has been awarded the U.S. National Medal of Technology (1997), the IEEE Alexander Graham Bell Medal (1997), the Marconi Prize (1998), the A. M. Turing Award (2004), the Japan Prize (2008) and The Prince of Asturias Award (2002). In 2013, he was an inaugural winner of the Queen Elizabeth Prize for Engineering.