**Who invented Internet?**

It wasn't Al Gore who invented the Internet. In fact, Mr. Gore never really claimed to have done so. In a 1999 interview with CNN's Wolf Blitzer, the then-vice president said that he had taken the initiative in creating the Internet, meaning that as a politician he had supported the computer scientists, programmers and engineers who built the global network through legislation.

The truth is, a group of people are responsible for building the Internet. First, there were the visionaries who imagined that computers would one day communicate with each other. Early [computers](http://computer.howstuffworks.com/pc.htm) were isolated devices that lacked the ability to share data without a lot of physical effort on the part of computer users. If you wanted to port information from one machine to another, you had to carry boxes of punch cards or reels of magnetic tape.

But some people glimpsed a future in which computers could work together to create access to the world's information and provide massive amounts of processing capability. One such person was Vannevar Bush, a man who played a vital role in the Defense Research Committee during [World War II](http://history.howstuffworks.com/world-war-ii/outbreak-of-world-war-ii.htm). Bush wrote in 1945 that information would play a significantly larger role in all future conflicts based upon the experience of World War II. He also recognized that the amount of information we generate each day is enormous. How could anyone manage it?

Bush envisioned an automatic device that could manage information. It was essentially a computerized library. He named this theoretical engine memex. This wasn't necessarily a network of computers but more of a conceptual approach to solving the problem of data management. His ideas would inspire future computer scientists to find a way to build a real memex device.

Eventually, technological developments caught up to these visions of a massive digital library. What really set development into motion was the U.S. Department of Defense's plan to create a wide area network that would allow different computers running various operating systems to share information between them.

A man named J.C.R. Licklider picked up where Vannevar Bush left off. He too saw the need for a new approach to managing information. He estimated that sorting through information took up about 85 percent of the time he dedicated to completing tasks. Licklider also understood the potential for computer networks. He envisioned a network composed of other networks that would create a computing system more powerful than any in existence. He called his idea of a massive network of computers the Intergalactic Network.

These visionaries provided the ideas that the next round of engineers and scientists would expand upon to build the first wide area network: ARPANET.

**From ARPANET to Internet**

The first big steps in building the Internet stemmed from a project called ARPANET. The United States Department of Defense (DoD) funded a project to build the technology that could support computer networks even if the [computers](http://computer.howstuffworks.com/pc.htm) connected to the network used different operating systems. Before ARPANET, all computer networks were limited in size and **homogenous**, meaning all the machines connected to the network were identical.

The program manager for the ARPANET project was Larry Roberts, who was heavily involved in the system's design. An engineer named Mike Wingfield designed the interface that would allow a computer to link with an Internet Message Processor (IMP), a device that allowed different computers to communicate across the same network.

Computer scientists had to figure out a way to make different machines understand one another through a common set of rules called protocols. Two of the most important protocols were the **Transmission Control Protocol (TCP)** and **Internet Protocol (IP)**. These sets of rules replaced an earlier set called the Network Control Protocol. They're what ultimately allowed the ARPANET to connect to other networks. The two men responsible for the development of these protocols were Robert Kahn and Vinton Cerf.

Three other people who contributed to the way the Internet works were Paul Baran, Donald Davies and Leonard Kleinrock. These mathematicians designed **packet switching**, which is how computers send information over the Internet. Rather than send data as a giant file, computers divide files up into packets. It's possible, though not likely, that each packet associated with a single file could take a different pathway through a network to reach its destination. Once there, the receiving computer reassembles the file based on information included with each packet.

Other notable contributors were Ray Tomlinson, who invented [e-mail](http://computer.howstuffworks.com/e-mail-messaging/email.htm), and Abhay Bhushan, who developed the original specifications for file transfer protocol (FTP). In 1983, Paul Mockapetris invented something that's key to the way we interface with the Internet: the Domain Name System. Devices connected to the Internet all have addresses that are a series of numerals. But most people aren't very good at remembering long strings of numbers. Mockapetris developed a way to let people type in word-based addresses that computers could cross reference with a database of numerical addresses.

As for the Web, that comes to us courtesy of Tim Berners-Lee. The Web is relatively young -- Berners-Lee created it in 1990. But in that short time it's become one of the most popular ways to interact with the Internet -- so much so that some people mistakenly believe the Web is the same thing as the Internet.