

ADDIS ABABA UNIVERCITY

ADDIS ABABA INSTITUTE OF TECHNOLOGY

CENTER OF INFORMATION TECHNOLOGY AND SCIENTIFIC COMPUTING

**DEPARTMENT OF** SOFTWARE ENGINEERING

**EVOLUTION OF THE ENTERNET**

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# History of the Internet

## Introduction

The Internet is a massive network of networks, a networking infrastructure. It connects millions of computers together globally, forming a network in which any computer can communicate with any other computer as long as they are both connected to the Internet.

By definition the [Internet](https://en.wikipedia.org/wiki/Internet) is a worldwide, publicly accessible series of interconnected [computer networks](https://en.wikipedia.org/wiki/Computer_network) that transmit [data](https://en.wikipedia.org/wiki/Data) by [packet switching](https://en.wikipedia.org/wiki/Packet_switching) using the standard [Internet Protocol](https://en.wikipedia.org/wiki/Internet_Protocol). How did this technology come to be so popular and so widely used around the world? Was it always so large and extensive, filled with information about just about anything you can possibly imagine and accessible from almost anywhere, anytime? The answer is no and it is important to understand where it came from to understand how to utilize it to its fullest potential now. In this section we will see the history of the Internet from the beginning to what it is today.

## Creation

The Internet’s origins have their roots in a military project, the Semi-Automatic Ground Environment (SAGE) program in USA, which networked country-wide radar systems together for the first time. This was created around 1958 as part of an attempt to regain the lead in technology from the Soviet Union which had recently launched Sputnik (the first man-made satellite to orbit the earth).

J.C.R. Licklider was selected to head the committee which controlled the SAGE project. He envisioned universal networking as a unifying human revolution. Licklider recruited Lawrence Roberts to head a project which implemented a network. Roberts had worked with the U.S. Air Force on a [packet switching](https://en.wikipedia.org/wiki/Packet_switching) system as opposed to a [circuit switching](https://en.wikipedia.org/wiki/Circuit_switching) system. On October 29, 1969, Licklider and Roberts interconnected the first two nodes between UCLA and SRI International at Menlo Park, California. This was the beginning of the [Advanced Research Projects Agency Network (ARPANET)](https://en.wikipedia.org/wiki/ARPANET) which was one of the key networks which our Internet today was based off of. Soon after the first international packet-switched network service was created between U.S. and U.K.

[Vint Cerf](https://en.wikipedia.org/wiki/Vint_Cerf) and [Bob Kahn](https://en.wikipedia.org/wiki/Bob_Kahn) developed the first description of [TCP](https://en.wikipedia.org/wiki/Transmission_Control_Protocol) (covered more deeply in the Introduction to Networking lesson) in 1973. The term “Internet” was first used in 1974 to describe a single global TCP/IP network detailed in the first full specification of TCP written by Cerf and his colleagues. The first TCP/IP-wide area network was created on January 1, 1983 when all hosts on the ARPANET were switched over from the older protocols to TCP/IP.

In 1984, the [National Science Foundation (NSF)](https://en.wikipedia.org/wiki/National_Science_Foundation) commissioned the construction of a 1.5 megabit/second network which became known as [NSFNET](https://en.wikipedia.org/wiki/National_Science_Foundation_Network). In 1989 the US Federal Networking Council approved the interconnection of the NSFNET to the commercial [MCI Mail](https://en.wikipedia.org/wiki/MCI_Mail) system.

Soon after, other commercial e-mail services were connected such as OnTyme, Telemail, and [CompuServe](https://en.wikipedia.org/wiki/CompuServe). Three [Internet Service Providers (ISPs)](https://en.wikipedia.org/wiki/Internet_service_provider) were also created: [UUNET](https://en.wikipedia.org/wiki/UUNET), [PSINET](https://en.wikipedia.org/wiki/PSINet), and [CERFNET](https://en.wikipedia.org/wiki/CERFnet). More and more separate networks were created that eventually interconnected with this large, growing network of networks.

The ability of TCP/IP to work over virtually any pre-existing communication networks allowed for a great ease of growth, although the rapid growth of the Internet was due primarily to the availability of commercial routers from companies such as [Cisco Systems](https://en.wikipedia.org/wiki/Cisco_Systems), Proteon and [Juniper](https://en.wikipedia.org/wiki/Juniper_Networks), the availability of commercial [Ethernet](https://en.wikipedia.org/wiki/Ethernet) equipment for local-area networking and the widespread implementation of TCP/IP on the [UNIX](https://en.wikipedia.org/wiki/Unix) operating system.