

# [Arpanet 12793](https://assignbuster.com/arpanet-12793/)

[Technology](https://assignbuster.com/essay-subjects/technology/)

The USSR launches Sputnik, the first artificial earth satellite. In the late

1960’s the U. S. military was desperately afraid of a nuclear attack from the

Soviet Union. The United States formed the Advanced Research Projects Agency (ARPA)

within the Department of Defense to establish a bombproof network to connect

military bases. ARPANET’s physical network was established in 1969 to enable

universities and research organizations to exchange information freely. The

first two nodes that formed the ARPANET were UCLA and the Stanford Research

Institute, shortly after the University of Utah was added to ARPANET. The

Network Control Protocol (NCP) was initially used as the ARPANET protocol,

beginning in 1970. By 1971, a total of 23 hosts at 15 locations were connected

to the ARPANET. The following year, the first international connections

occurred, linking the University College of London (UK) and the Royal Radar

Establishment (Norway) to the ARPANET. The way ARPANET was set up is so that if

one of the network links became disrupted by enemy attack, the traffic on it

could automatically be rerouted to other links. Fortunately, the Net rarely has

come under enemy attack. In the 1970s, ARPA also sponsored further research into

the applications of packet switching technologies. This included extending

packet switching to ships at sea and ground mobile units and the use of radio

for packet switching. Ethernet was created during the course of research into

the use of radio for packet switching, and it was found that coaxial cable could

support the movement of data at extremely fast rates of speed. The development

of Ethernet was crucial to the growth of local area computer networks. The

success of ARPANET made it difficult to manage, particularly with the large and

growing number of university sites on it. So it was broken into two parts. The

two parts consisted of MILNET, which had the military sites, and the new,

smaller ARPANET, which had the nonmilitary sites. On January 1, 1983, every

machine connected to ARPANET had to use TCP/IP. TCP/IP became the core Internet

protocol and replaced NCP (old ARPANET language) completely. Thanks to TCP/IP

MILNET and ARPANET remained connected through a technical scheme called IP

(Internet Protocol); which enables traffic to be routed from one network to

another as necessary. All the networks connected to the Internet speak IP, so

they all can exchange messages. Although there were only two networks at that

time, IP was designed to allow for tens of thousands of networks. An unusual

fact about the IP design is that every computer on an IP network is just as

capable as any other, so any machine can communicate with any other machine. In

1985 the National Science Foundation began announcing plans for its new T1

lines, which would be finished by 1988. Soon after the completion of the T1

backbone, traffic increased so quickly that plans immediately began on upgrading

the network again. The same year the concept of the T3, a 45 Mbps was introduced

to the public. While the T3 lines were being constructed, the Department of

Defense disbanded the ARPANET and the T1 and later T3 backbone replaced ARPANET.

The original 50Kbs lines of ARPANET were taken out of service. In 1990 ARPANET

was replaced by the National Science Foundation Network (NSFNET), the same

company that founded the t1 and t3, to connect its supercomputers to regional

networks. In my opinion I think the government did an excellent job in

developing the Internet. Essentially, the ARPANET can be viewed as the embryo

from which the Internet grew. The government fostered and encouraged the growth

of private Internet corporations. Today the Internet spans across all 7

continents and connects the whole world with some clicks of a mouse and typing

at the keyboard.

Bibliography1.)Casting the Net: From Arpanet to Internet and Beyond (Unix and Open

Systems Series) Peter H. Salus / Paperback / Published 1995 2.) Building the

Arpanet: Unpublished Source Documents of the First Peter Salus(Editor) /

Hardcover / Published 1998