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CENTER OF INFORMATION TECHNOLOGY AND SCIENTIFIC COMPUTING

The internet and world wide web

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**Introduction**

The Internet is a worldwide system of interconnected computer networks that use the TCP/IP set of network protocols to reach billions of users. It is a network of networks that serves as a global data communications system that links millions of private, public, academic and business networks via an international telecommunications backbone that consists of various electronic and optical networking technologies.

World Wide Web, which is also known as a Web, is a collection of websites containing text pages, digital images, audios and videos or web pages stored in web servers and connected to local computers through the internet.

The internet and world wide web can be used interchangeably but they are not exactly the same. One can think the internet as a vast hardware and software infrastructure that enables computer interconnectivity and the world wide web as collection of documents and other resources connected by hyperlinks. In simple words users access content of the web from any part of the world over the internet.

**The Evolution of internet**

The Internet started in the 1960s as a way for government researchers to share information. Computers in the '60s were large and immobile and in order to make use of information stored in any one computer, one had to either travel to the site of the computer or have magnetic computer tapes sent through the conventional postal system.

In 1962, J.C.R. Licklider of MIT proposes the concept of galactic network for the first time with the idea of having global network. On the other hand, the advanced research projects agency (ARPA) was considering ways information could still be disseminated even after a nuclear attack which eventually led to the formation of the ARPANET (Advanced Research Projects Agency Network) having J.C.R. Licklider as the head researcher in 1969. ARPANET is the network that ultimately evolved into what we now know as the Internet. ARPANET was a great success but membership was limited to certain academic and research organizations who had contracts with the Defense Department. In response to this, other networks(ways) were created to provide information sharing such as Gmail in 1971.

In 1972, Network Control Protocol was introduced to allow computers running on the same network to communicate with each other. But the various computers which were on different network were not able to communicate. As a result, a new communications protocol was established called Transfer Control Protocol/Internetwork Protocol (TCP/IP). This internet protocol allowed the computers to talk with each other. ARPANET and the Defense Data Network officially changed to the TCP/IP standard on January 1, 1983, hence the birth of the Internet.

1986, the National Science Foundation funded NSFNet as a cross country 56 Kbps backbone for the Internet. They maintained their sponsorship for nearly a decade, setting rules for its non-commercial government and research uses. As the commands for [e-mail](javascript:newWindow('../glossary/e.html#e-mail')), [FTP](javascript:newWindow('../glossary/f.html#ftp')), and [telnet](javascript:newWindow('../glossary/t.html#telnet')) were standardized, it became a lot easier for non-technical people to learn to use the nets. It was not easy by today's standards by any means, but it did open up use of the Internet to many more people in universities in particular. Other departments besides the libraries, computer, physics, and engineering departments found ways to make good use of the networks to communicate with colleagues around the world and to share files and resources.

While the number of sites on the Internet was small, it was fairly easy to keep track of the resources of interest that were available. But as more and more universities and organizations and their libraries connected, the Internet became harder and harder to track. There was more and more need for tools to index the resources that were available. Advanced Network & Services (ANS) was formed to research new ways to make internet speeds even faster. The group developed the T3 line and installed in on a number of networks. Then a hypertext system was created and implemented by Tim Berners-Lee while working for CERN. This led to the invention of the most amazing tool in the internet world, the world wide web which Now a days are estimated to be over 1billion of them. The technology world kept on improving, growing, hosts kept on increasing and reached to the point of inventing a wireless network, most commonly known as Wi-Fi in 1999. It became standard afterwards.

The Internet has definitely made many aspects of modern life much more convenient. From paying bills and buying clothes to researching and learning new things, from keeping in contact with people to meeting new people, all of these things have become much more convenient thanks to the Internet. The Internet has also turned into big business and has created a completely new marketplace that did not exist before it.