# History of Internet [The Evolution]

## Introduction

Internet Is a network of computers connecting millions of computers. Internet is decentralized meaning it is owned by no one. The internet has revolutionized the computer and communications entirely.

The history of internet consists of four distinct aspects. The early stage of the internet research began with packet and switching and the ARPANET, and there still are researches that expand the horizons of the infrastructure along several dimensions, like scale, performance, and increased level of functionality.

## Origin of the Internet

The root of Internet is United States that started in early 1960s. The US needed a fast, reliable, secure way of communication because of the cold War period.

The first recorded description of the social interactions through networking of series of memos written by J.C.R. Licklider of MIT in August 1962 discussing his “Galactic Network” concept.

In 1961 Leonard Kleinrock at MIT published the first paper on packet switching theory and the first book on the subject. In 1965 working with Thomas Merrill, Roberts connected the TX-2 computer in Mass. to the Q-32 in California with a low speed dial-up telephone line creating the first (however small) wide-area computer network ever built.

In late 1966 Roberts went to DARPA to develop the computer network concept and quickly put together his plan for the “ARPANET”, publishing it in 1967. A group headed by Frank Heart at Bolt Beranek and Newman (BBN) worked on the packet switches called Interface Message Processors (IMP’s). As BBN was working on the IMP’s with Bob Kahn playing a major role in the overall ARPANET architectural Design.

The first node to be selected on ARPANET was Kleinrock’s due to his early development of packet switching theory and his focus on analysis, design and measurement.

In September 1969 BBN installed the first IMP at UCLA (where Kleinrock’s work was) and the first host computer was connected. Stanford Research Institute (SRI) provided the second computer(node). The first host-to-host message was sent from Kleinrock’s laboratory to SRI.

Two more nodes were added Santa Barbara and University of Utah. These last nodes consisted application Visualization projects. Thus, by the end of 1969, four host computers were connected together into the initial ARPANET.

Computers were added quickly to the ARPANET during the following years, and work proceeded on completing a functionally complete Host-to-Host protocol and other network software. In December 1970 the initial ARPANET Host-to-Host protocol, called the Network Control Protocol (NCP) was finished. As the ARPANET sites completed implementing NCP during the period 1971-1972, the network users finally could begin to develop applications. In early 1973, the network had grown to 35 nodes and was connected to 38 host com­puters (Rubinstein, 2009). That year, Norway and England were added to the network and traffic had expanded significantly.

## The Initial Internetting Concepts

The original ARPANET grew into the Internet. Internet was based on the idea that there would be multiple independent networks. Beginning with ARPANET as the pioneering packet switching network soon included satellite networks, ground-based packet radio networks and other networks. The Internet include a key underlying technical idea – open architecture networking. In this approach the choice of any individual network technology was not dictated by a particular network architecture but rather could be selected freely by a provider and made to interwork with the other networks through a meta-level “Internetworking Architecture”.

NCP did not have the ability to address networks (and machines) further downstream than a destination IMP on the ARPANET and thus some change to NCP would also be required. (The assumption was that the ARPANET was not changeable in this regard). NCP relied on ARPANET to provide end-to-end reliability. If any packets were lost, the protocol (and presumably any applications it supported) would come to a grinding halt. In this model NCP had no end-end host error control, since the ARPANET was to be the only network in existence and it would be so reliable that no error control would be required on the part

of the hosts.

Therefore, Kahn decided to develop a new version of the protocol which could meet the needs of an open-architecture network environment. This protocol would eventually be called the Transmission Control Protocol/Internet Protocol (TCP/IP). While NCP tended to act like a device driver, the new protocol would be more like a communications protocol**.**

## Entering the Commercial Phase

During the mid-1980s, the Internet entered its commercial phase. In 1986, the number of Internet hosts increased to 5000. By 1987, when the number of hosts reached 10,000, to trim down the traffic load on the ARPANET, a network run by the National Science Foundation, called NSFnet, merged with another NSF network, called CSNet, and with BITNET to compose one network that could carry much of the net­work traffic. In 1989, number of hosts reached 159,000.37 Australia (AU), Germany (DE), Israel (IL), Italy (IT), Japan (JP), Mexico (MX), Netherlands (NL), New Zealand (NZ), Puerto Rico (PR), and the United Kingdom (UK) connected to NSFnet.

In 1989, Englishman Tim Berners- Lee proposed the idea of an international system of protocols: Building a distributed hypermedia server which would allow Net us­ers to prepare electronic documents that are composites of, or pointers to, many different files of potentially different types, scattered across the world. Berners-Lee called it the World Wide Web (WWW).

## THE MASSIVE EXPANSION

Many people began creating their own personal Web areas. Homepages and bookmarks were introduced to allow Net users (about 16 million) to organize their personal documents and to keep track of useful informa­tion.

In 1996, the number of Net users more than doubled, from 16 million in 1995 to 36 million.

Larry Page and Sergey Brin, started to work on a search engine which they called BackRub, as it was designed to analyze a ‘back link’ on the Web. Later they renamed their search engine Google, after googol, the term for the numeral 1 followed by 100 zeroes. They released their first version in August 1996.

## Social Networking

In July 2003 Myspace was founded by Tom Anderson and Chris DeWolfe. Myspace allows members to create unique personal profiles online in order to find and communicate with old and new friends.

Facebook.com was founded on February 4, 2004 by Mark Zuckerberg, Eduardo Saverin, Dustin Moskov­itz and Chris Hughes (Carlson, 2010).

In 2006, the free social networking site Twitter was started by Jack Dorsey. Essentially, Twitter combines Short Code Messaging, SMS with a way to create social groups.

In 2005 three former employees of Paypal, Chad Hurley, Steve Chen and Jawed Karim created a video file sharing website called “YouTube.”

Telegram was founded in March 2013 by Pavel Durov is the founder and majority owner of messaging app Telegram Messenger, which has more than 300 million users worldwide.