History of Internet

The Internet was developed by Bob Kahn and Vint Cerf in the 1970s. They began the design of what we today know as the 'internet.' It was the result of another research experiment which was called ARPANET, which stands for Advanced Research Projects Agency Network and started in the year 1983.This was initially supposed to be a communications system for the Defense Team of the United States of America - a network that would also survive a nuclear attack. It eventually became a successful nationwide experimental packet network. But when was the first Internet started? It is believed that on 6 August 1991, when the World Wide Web opened to the public.

How Does the Internet Work?

Computers that we use every day are called clients because they are indirectly connected to the Internet through an internet service provider. When you open a webpage on your computer, you connect to the webpage, and then you can access it. Computers break the information into smaller pieces called packets, which are reassembled in their original order.

If we put the right address on a packet and send it to any computer which is connected as part of the internet, each computer would figure out which cable to send it down next so that it would get to its destination. With several computers on a network, it may create confusion even with unique addresses. This transfer of messages is handled by the Packet Routing Network, and hence a router is required to set up.

The Transfer Control Protocol is another system that makes sure no packet is lost or left behind because it might create a disrupted message at the receiving end.

The below are the steps for how the message is transferred.

1. First, Computer1 sends a message by IP address to Computer2
2. The message sent by Computer1 is broken into small pieces- packets.
3. These small pieces- packets are transferred concerning Transfer Protocol so that the quality is maintained.
4. Finally, these small pieces- packets reach Computer2 and are reassembled at their IP address.

The Internet works in a more complex manner than these above-given steps, but this might give a basic idea of how the internet works.

Father of the Internet: Tim Berners-Lee

Tim Berners-Lee was the man, who led the development of the World Wide Web, the defining of HTTP (HyperText Transfer Protocol), HTML (hypertext markup language) used to create web pages, and URLs (Universal Resource Locators). The development of WWW, HTTP, HTML and URLs took place between 1989 and 1991. Tim Berners-Lee was born in London and he graduated in Physics from Oxford University in 1976. Currently, Tim Berners-Lee is the Director of the World Wide Web Consortium, the group that sets technical standards for the web.

Tim Berners-Lee, Vinton Cerf is also named as an internet daddy other than Tim Berners-Lee. After being out for 10 years from high school, he began co-designing and co-developing the protocols and structure of what became the internet.

History of HTML

In 1945, Vannevar Bush first introduced the basics of hypertext. In 1990, Tim Berners-Lee invented the World Wide Web, HTML (hypertext markup language), HTTP (HyperText Transfer Protocol) and URLs (Universal Resource Locators. Along with his colleagues at CERN (an international scientific organization based in Geneva, Switzerland), Tim Berners-Lee was the primary author of HTML (hypertext markup language).

Evolution of the Internet

Although the Internet was developed much earlier, it only became popular in households in the 1990s. The emergence of the Internet can be tracked by how many businesses and homes started changing the way they worked and started connecting their laptops and other devices to the Internet. However, the concept of hypertext transfer protocol (HTTP) as we know it today, was created only during this time. This meant that people could access the same web pages on their devices now and share information.

There has been a dramatic growth in the number of internet users since its inception. As a result, the number of computer networks that are connected has grown exponentially too. It started with only connecting less than ten computers initially. Today, 440 million computers can be connected directly, making life easier for people across the globe. Sharing information and knowledge has become extremely easy for those that have access to the Internet. The country with the highest number of internet users is China, with 1.4 billion users, followed by India with 1.3 billion and the United States of America with a little over 0.3 billion users.

Standards and Administration:

Standards are necessary in networking to ensure interconnectivity and interoperability between various networking hardware and software components. Without standards we would have proprietary products creating isolated islands of users which cannot interconnect.

Concept of Standard

Standards provide guidelines to product manufacturers and vendors to ensure national and international interconnectivity.

Data communications standards are classified into two categories:

1. De facto Standard o These are the standards that have been traditionally used and mean by fact or by convention
   These standards are not approved by any organized body but are adopted by widespread use.
2. De jure standard
   It means by law or by regulation.
   These standards are legislated and approved by an body that is officially recognized.
   Standard Organizations in field of Networking
   Standards are created by standards creation committees, forums, and government regulatory agencies.
   Examples of Standard Creation Committees :
   1. International Organization for Standardization(ISO)
   2. International Telecommunications Union – Telecommunications Standard (ITU-T)
   3. American National Standards Institute (ANSI)
   4. Institute of Electrical & Electronics Engineers (IEEE)
   5. Electronic Industries Associates (EIA) o
   Examples of Forums
   1. ATM Forum
   2. MPLS Forum
   3. Frame Relay Forum
   Examples of Regulatory Agencies:
   1. Federal Communications Committee (FCC)