History of Computer Network

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Introduction: The history of computer networks, according to many experts has been around for about 35 years. While it is complex and ambiguous, it cannot be described as for example the history of the vacuum cleaner or the history of TV. And it's not that a computer network is something unimaginable. It is impossible to feel whole, as most networks at the moment are wireless. The network history is ambiguous because at the dawn of its development, scientists and engineers to imagine that they create. But the fact that they have created, in the end, was incredibly Grand scale.

History: The idea of ARPANET, one of the earliest computer networks, was proposed by Leonard Kleinrock in 1961, in his paper titled "Information Flow in Large Communication Nets." The term "packet" was coined by Donald Davies in 1965, to describe data sent between computers over a network. ARPANET was one of the first computer networks to use packet switching. Development of ARPANET started in 1966, and the first two nodes, UCLA and SRI (Stanford Research Institute), were connected, officially starting ARPANET in 1969. The first RFC surfaced in April 1969, as a document to define and provide information about computer communications, network protocols, and procedures. The first network switch and IMP (Interface Message Processor) was sent to UCLA on August 29, 1969. It was used to send the first data transmission on ARPANET. The Internet was officially born, with the first data transmission being sent between UCLA and SRI on October 29, 1969, at 10:30 p.m. Steve Crocker and a team at UCLA released NCP (NetWare Core Protocol) in 1970. NCP is a file sharing protocol for use with NetWare. ALOHAnet, a UHF wireless packet network, was used in Hawaii to connect the islands together. Although it is not Wi-Fi, it helps lay the foundation for Wi-Fi. Ethernet was developed by Robert Metcalfe in 1973 while working at Xerox PARC. The first international network connection, called SATNET, was deployed in 1973 by ARPA. An experimental VoIP call was made in 1973, officially introducing VoIP technology and capabilities. However, the first software allowing users to make VoIP calls was not available until 1995. The first routers were used at Xerox in 1974. However, these first routers were not considered true IP routers. Ginny Strazisar developed the first true IP router, originally called a gateway, in 1976. Bob Kahn invented the TCP/IP protocol for networks and developed it, with help from Vint Cerf, in 1978. Internet protocol version 4, or IPv4, was officially defined in RFC 791 in 1981. IPv4 was the first major version of the Internet protocol. BITNET was created in 1981 as a network between IBM mainframe systems in the United States. CSNET (Computer Science Network) was developed by the U.S. National Science Foundation in 1981. ARPANET finished the transition to using TCP/IP in 1983. Paul Mockapetris and Jon Postel implement the first DNS in 1983. The NSFNET (National Science Foundation Network) came online in 1986. It was a backbone for ARPANET, before eventually replacing ARPANET in the early 1990s. BITNET II was created in 1986 to address bandwidth issues with the original BITNET. The first T1 backbone was added to ARPANET in 1988. WaveLAN network technology, the official precursor to Wi-Fi, was introduced to the market by AT&T, Lucent, and NCR in 1988. Details about network firewall technology was first published in 1988. The published paper discussed the first firewall, called a packet filter firewall, that was developed by Digital Equipment Corporation the same year. Kalpana, a U.S. network hardware company, developed and introduced the

first network switch in 1990. IPv6 was introduced in 1996 as an improvement over IPv4, including a wider range of IP addresses, improved routing, and embedded encryption. The first version of the 802.11 standard for Wi-Fi is introduced in June 1997, providing transmission speeds up to 2 Mbps. The 802.11a standard for Wi-Fi was made official in 1999, designed to use the 5 GHz band and provide transmission speeds up to 25 Mbps. 802.11b devices were available to the public starting mid-1999, providing transmission speeds up to 11 Mbps. The WEP encryption protocol for Wi-Fi was introduced in September 1999, for use with 802.11b. 802.11g devices were available to the public starting in January 2003, providing transmission speeds up to 20 Mbps. The WPA encryption protocol for Wi-Fi was introduced in 2003, for use with 802.11g. The WPA2 encryption protocol was introduced in 2004, as an improvement over and replacement for WPA. All Wi-Fi devices were required to be WPA2 certified by 2006. The 802.11n standard for Wi-Fi was made official in 2009. It provided higher transfer speed over 802.11a and 802.11g, and it could operate on the 2.4 GHz and 5 GHz bandwidths. The Wi-Fi Alliance introduced WPA3 encryption for Wi-Fi in January 2018, which includes security enhancements over WPA2.

Conclusion: The development of computer network started at a slow pace but it progressed very fast as technology advanced with time and more and more researchers got involved in this. Development is still going on as current technologies still doesn't feel goo enough.

Resources:

1. https://www.peeweepc.com/history-computer-networks
2. https://www.computerhope.com/history/network.htm