Year	Event
1807	Joseph M. Jacquard: Automatic loom with punched hole cards/tapes
1837	C.Wheatstone & W.Cooke: electric telegraph used in rail system to alert about coming trains.
1884	Hermann Hollerith: Punched Cards
1904	J.A.Fleming: thermionic diode @UCL
1931	Vannevar Bush constructed 1st modern differntial analyzer
1941	Hedy Lamarr: "Spread-Spectrum" or "Frequency Hopping"
1944	GCHQ + NSA had a US-Can-UK link in place (declassified in 2010).
1945	Vannevar Bush predicts with the "memex" a WWW-like structure based on microfilm technology.
1946	ENIAC (Electronic Numerical Integrator and Computer) calculated artillery firing tables for the United States Army'
1947	Transistor patented by Bell Labs
1948	Claude Shannon: Communication in the presence of noise
1948	Tetetype Exchanges using papertape (Plan 55-A), business machines use Hollerith
1949	M.Wilkes: EDSAC (Electronic Delay Storage Automatic Calculator) @ Uni. Cambridge. 1st Stored Programming Computer
1950	SITA opens its 1st telecoms center in Rome. Maual transmission using Perforated tapes and teleprinters.
1952	IBM 701 based on IAS (Von Neumann) Scientific Computer: Vacuum Tubes and Williams Tube as memory
1958	DARPA (Defense Advanced Research Projects Agency) was founded (after Sputnik shock). Funded ARPANET based upon designs by Paul Baran & Doward Davies.
1959	Early networks of communicating computers included the military radar system Semi-Automatic Ground Environment (SAGE)
1959	IBM 1401 with transistors, core memory, stored program control
1960	SAGE (end 1950's) and SABRE (1960) used mainframes connected with direct cables using modems: 2400bps over telephone was high speed (limits set by Shannons equations).
1960	In 1960, the commercial airline reservation system semi-automatic business research environment (SABRE) went online with two connected mainframes
1961	on may 28th 3 people sabotaged 3 microwave towers in Colorado and Utha that were in star hubs, causing significant distruption in Western US telecomms.
1962	Basic Packet Switching Principles defined (mesh not star, chop data in small blocks and route packets individually and route them to logical adresses) by Paul Baran in US, influenced by cold war threats and to reduce vulnerability.
1962	Donald Davies in UK also invented packet switching in order to share expensive links.
1962	AUTODIN goes on-line. US Air Force international logistics network, originally to replace the mailing of Hollerith cards. Eventually supporting different terminals. Some parts still in operation by 2000.
1962	IJ.C.R. Licklider developed at the Advanced Research Projects Agency (ARPA) a concept called the "Intergalactic Computer Network", a precursor to the ARPANET
1963	Teletyte (TTY) 33 ASR introduced, first popular interactive computer terminal
1964	Time sharig computers and Service Bureaus emerge: Tymshare (1964), Copuserve (1969) + many others
1964	NPL and MIT both launched packet switching experiments
1964	Researchers at Dartmouth developed the Dartmouth Time Sharing System for distributed users of large computer systems
1964	IBM System/360 introduced, basic architecture still used today
1965	T.Marill + L.G. Roberts created the first wide area network (WAN), a cooperative network on time sharing computers California - Boston. Was precursor to the ARPANET
1966	MERIT (Michigan Educational Research Information Triad) to create/improve timesharing services among institutes in Michigan. Reengineered and managed NSFnet from 1987 to 1995.
1966	SITA installs computer for message switching in Frankfurt

Year	Event
1967	Binary Synchronous Communications (Bisync) introduced with IBM/360. Probably the widest used protocol by end of the 70's.
1969	First message over ARPANET between 2 computers (a remote login).
1969	As the beginning of the ARPANET the University of California at L.A., Stanford Research Institute, University of California at Santa Barbara and the University of Utah were connected using 50 kbit/s circuits and Info Message Processors (IMP) from BBN
1969	SITA implements High Level Network. Leads to the 1st worldwide packet switching net dedicated to business traffic
1971	CYCLADES (F) start, experimental datagram network (L.Pouzin)
1971	Tymnet opens dial-up service to service bureau Tymshare and others. Shut down be BT in 2004.
1972	INWG (International Network Working Group) convened by Vint Cerf
1972	In 1972, commercial services using X.25 were deployed, and later used as an underlying infrastructure for expanding TCP/IP networks
1972	1st commercial roll-out of a digital local telephone exchange (Alcatel E10 in Brittany)
1972	SITA creates International Telecommunication Services (ITS, later Equant). ITS provides integrated network solutions to SITA members.
1973	V.Cerf & R.Kahn developed TCP/IP protocols, incorporating some designs by L.Pouzin.
1974	VT05: glasstube teletype
1974	L.Pouzin published paper on "Interconnection of Packet Switching Networks"
1974	IBM SNA announced for IBM 370 mainframes. Its essentially a terminal to mainframe architecture.
1974	IBM announced SNA (System Network Architecture) essentially a hierachical structure with mainframe(s) at the hub.
1974	DEC announces DNA (Digital Network Architecture), a peer-to-peer structure. First DECnet products available (initially point-to-point only, no routing yet)
1975	ARPANET: 1975: 99 computers, 1980: 200 computers
1975	TELENET opens for service in USA. Today part of Sprint Corporation.
1976	UUCP - Unix to Unix Copy invented. File x-fer, later e-mail & news items. USEnet grew up as cooperation of international Unix users.
1976	In 1976, John Murphy of Datapoint Corporation created ARCNET, a token-passing network first used to share storage devices
1976	IBM's internal network VNET started, linking mainframes
1977	EPSS - Experimental Packet Swithing System by British GPO opens, forerunner of X.25
1977	ARCNet announced: Token Passing Star wired bus (Radio Shack Tandy computers)
1978	Vint Cerf & Bob Kahn published stable version of TCP/IP based on 9 years of ARPANET experience & with interaction with L. Pouzin & P Kirstein from Europe.
1979	EIN (European Informatics Network) led by Derek Barber: Nodes in UK, F, I, CH. Running well in 1979 but doomed by PTTs, insisting on X.25.
1980	Stable X.25 Stanard, used in public networks
1980	Hubert Zimmermann published OSI (Open Systems Interconnection) odel. Open as opposed to proprietary solutions (mainly IBM & DEC)
1980	Ethernet standard becomes available, developed during 1970's in Xerox PARC (Palo Alto Research Center) supported by DEC & Intel
1981	CYCLADES (F) forced to shut down under pressure from FT Transpac
1981	CSNET (Computer Science Network) created in US with NSF (National Science Foundation) funding to avoid ARPA issues. BITnet (Because it's Time network) founded by US Academia with IBM support.
1981	First regular telecom service over optical cable (Sweden 3.5km distance).
1982	Follow-on AUTODIN II was terminated in favor of using ARPANET technology in MILNET.
1982	EUNET - organisation created by European USEnet users
1983	ARPAnet started to use TCP/IP
1983	Breaking TCP from IP was critical step allowing to move from ARPAnet to the Internet.
1983	First Ethernet products available from DEC. IBM develops Token Ring, shows prototype at T-83

Year	Event
1983	Explosion of TCP/IP use in academia: ARPANET split TCP from IP thus moved to Internet, UC @ Berkley relesed UNIX 4.2 BSD containing full implementation of TCP/IP for free (OSI s/w costs xK$). UNIX workstations become popular.
1983	First TCP/IP routers available from Proteon
1983	TCP/IP was not an official standard. OSI was a full set of standards by the ISO & ITU, apparently with broad governmental support including the US (GOSIP).
1984	Microprocessors arrived in IBM-PC's, UNIX, VAX pushing Norsk aside inside CERN.
1984	CLNS vs. CONS discussions, X.25, PTT deregulation etc
1984	IBM sponsored European BITnet extension called EARN (European Academic and Research Network)
1985	ARPAnet with 2000 computers, but not available for non-DARPA users.
1985	RARE (Reseau Associées pour la Recherche Européenne) organisation created. Committed to ISO/OSI - only way to get European Commission support, essential to deal with PTT's.
1985	The user question was "which standard". Protocoll wars started: proprietary vs standard, Europe vs USA, PTT vs (de-)regulators, pragmatists vs purists.
1985	To policymakers "inofficial" TCP/IP was no basis to create global open networks and OSI was "official". One just had to wait for the industry (DEC & IBM) to provide procucts and PTTs (carriers) to provide OSI based services.
1985	In this context many in European research (RARE, CERN, EARN, NRENs) declared OSI as their strategic direction, particularly also because the European Comission funded OSI projects.
1985	DEC EASYnet to Internet gateway operational for e-mail & file transfer
1986	NSFNET takes CSNET over, using TCP/IP. Any academic or researcher in the US can use NSFNET which also became the template for National Research networks around the world.
1986	NSFNET created a market for which TCP/IP software running on DEC, IBM, IBM compatible PC's and Aple McIntoshes was developed.
1986	DEC's internal network Easynet has 10'000 nodes, Internet 5'000 hosts
1987	With the advent of low-cost (UNIX) servers and (UNIX) workstations interconnected via TCP/IP in (Ethernet) LAN environments, users gained familiarity and experience. TCP/IP also ran happily over WAN connections using leased lines and X.25.
1987	Christmas worm, 1st network worm on IBM systems (VNET, BITNET, EARN)
1987	DEC's internal network Easynet has 25'000 nodes, Internet 28'000 hosts
1988	First transatlantic optical fiber cable (TAT-8)
1988	OSI implementations were either unavailable or very expensive, and TCP/IP implementations written by usergroups appeared on IBM-PCs, Macintoshes and mainframes, in addition to UNIX boxes.
1988	Morris worm, 1st Internet worm (UNIX BSD, Sun-3)
1988	IBM announces APPN (Advanced Peer to Peer networking) with AS400. Was intended as "DECnet killer"
1990	DEC VAX were the widest used science computers, thus HEPnet & SPAN were based on DECnet and represented the largest general purpose computer network by 1990.
1990	The tide is running for TCP/IP. The European research community started to support TCP/IP officially, DEC comitted to make TCP/IP available on VAX in addition to OSI (DECnet Phase V).
1990	300'000 computers on Internet, mostly in the academic world. CERN has total 10Mbps WAN bandwith available, of which 1,5Mbps to US via TAT-8.
1990	HEPnet+SPAN: 20'000 DECnet nodes worldwide
1991	Commercial Internet Exchange (CIX) created, original signatories were PSINET, UUNET & CERFnet
1992	SAP R/3 moves from mainframe to client/server implemetations
1996	ATM technology begins to be installed over the Equant/SITA network
1999	Equant (SITA network) aquired by France Telecom (Orange Business Services)
2008	IBM termed SNA an "application access architecture" which can be carried over IP networks.