

## A Technical History of the ARPANET

A timeline of major events in the history of the ARPANET  
providing an overview of the ARPANET's conception, growth, and development.

<b>1958</b>	Eisenhower forms the ARPA (Advance Research Projects Agency) in response to the USSR's launch of the Sputnik.
<b>1966</b>	<b>December:</b> ARPA Computer Network (ARPANET) project begins.
<b>1967</b>	<b>April:</b> It is suggested that the ARPANET utilize a separate computer between the host and the network. This computer would perform the packet switching/routing. This separate computer dubbed the Interface Message Processor or IMP.
<b>1968</b>	<b>December:</b> Contract to build the IMPs is won by Bolt Beranek and Newman Inc. (BBN)
<b>1969</b>	<p><b>April:</b> First specification for Host to IMP communication (BBN report 1822) is released.</p> <p><b>April:</b> The discussion of the Host to Host Protocol begins with RFC 1. The Network Working Group (NWG) forms to deal with the task of Host-Host layer communication protocols.</p> <p><b>September:</b> The first IMP is delivered and connected to a Sigma 7 computer at UCLA. This IMP constitutes the first node of the ARPANET. It is also the home of the Network Measurement Center, which will keep statistics, stress the network, and evaluate network performance.</p> <p><b>October:</b> The second node of the ARPANET is installed at Stanford Research Institute (SRI). The IMP is connected to an SDS 940 Computer. The first message is sent across the network and received.</p> <p><b>November:</b> The third node of the ARPANET is installed at UCSB.</p> <p><b>December:</b> The fourth node of the ARPANET is installed at The University of Utah.</p>
<b>1970</b>	<p>The network is stressed by inducing congestion. Several problems are revealed.</p> <p><b>March:</b> The ARPANET now spans the United States, with the installation of an IMP at BBN, in Cambridge, MA.</p> <p><b>March?:</b> The Network Control Center (NCC) at BBN begins operation. All IMPs have to report to the NCC every minute to confirm they are alive.</p> <p><b>November:</b> The IMP's software is upgraded to allow the IMPs to be able to download any new software from each other. This allows IMP software to be installed on one IMP, and the software will propagate throughout the IMP-subnet. Likewise, if a problem occurs, and an IMP needs to restore its software, it can download it from a neighboring IMP.</p>
<b>1971</b>	<p>The first host to host protocol is implemented, NCP (Network Control Protocol).</p> <p><b>September:</b> The Terminal IMP (TIP) is installed in the ARPANET, allowing direct terminal access to the network.</p>
<b>1972</b>	<p><b>March:</b> SNDMSG and READMAIL are written, allowing the first basic e-mail system.</p> <p><b>July:</b> The first File Transfer Protocol (FTP) specification is released (RFC 354).</p> <p><b>October:</b> First public demonstration of ARPANET occurs at the International Conference on Computer Communication (ICCC), Washington.</p>
<b>1973</b>	<p>The first attempt at Internetworking two networks (ARPANET and Packet Radio Network) begins.</p> <p><b>May:</b> First Ethernet operation at Xerox Palo Alto Research Center.</p>
<b>1974</b>	<p><b>April:</b> BBN releases a revised routing program for the IMPs.</p> <p><b>May:</b> Transmission Control Protocol (TCP), is specified. This protocol would replace the NCP, and allows for Internetworking. The protocol also takes over error-checking duties from the IMP-subnet.</p>
<b>1977</b>	<b>October:</b> TCP operations begins over the ARPANET, Packet Radio Net, and the Satellite Network (SATNET).
<b>1978</b>	<b>March:</b> TCP split into TCP and IP, where TCP is the end to end process, and IP is the network routing process.
<b>1983</b>	<p>MILNET (Military Network) splits off of ARPANET, leaving the ARPANET with 68 Nodes. The two networks are connected by a gateway, though.</p> <p><b>January:</b> The ARPANET officially transitions to TCP/IP.</p> <p><b>November:</b> Domain Name System (DNS) is designed. (.com, .gov, .mil, .org, .net, .int)</p>
<b>1989</b>	After 20 years, ARPANET is shutdown.