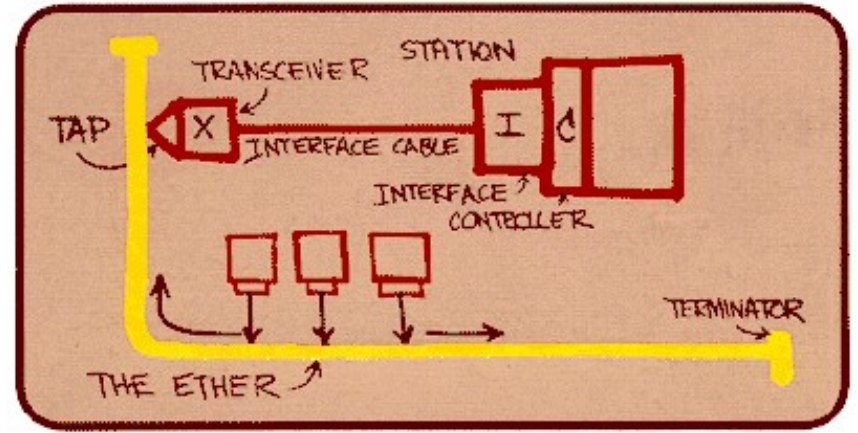
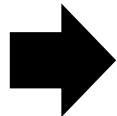
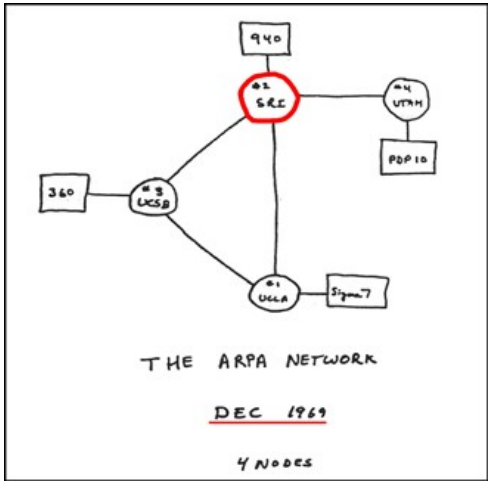
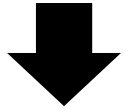
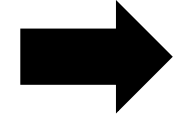


While all this was happening, in parallel, humans started thinking about connecting computers



Ethernet: Connecting computers via wires



1. Background

1976

Computer Systems G. Bell, S. Fuller and D. Siewiorek, Editors
Ethernet: Distributed Packet Switching for Local Computer Networks
 Robert M. Metcalfe and David R. Boggs
 Xerox Palo Alto Research Center

One can characterize the spectrum of activities varying from centralization, with one extreme being remote computer networking and the other being rather large computing systems. Multiprocessing is the construction of previously monolithic and serial computing systems from increasingly numerous and smaller pieces computing in parallel. Near the middle of this spectrum is local networking, the interconnection of computers to gain the resource sharing of computer networking and the parallelism of multiprocessing.

The separation between computers and the associated bit rate of their communication can be used to divide the distributed computing spectrum into broad activities. The product of separation and bit rate, now about 1 gigabit-meter per second (1 Gbps), is an indication of the limit of current communication technology and can be expected to increase with time:

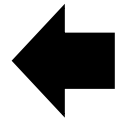
Activity	Separation	Bit rate
Remote networks	> 10 km	< .1 Mbps
Local networks	10-1 km	.1-10 Mbps
Multiprocessors	< .1 km	> 10 Mbps

1.1 Remote Computer Networking
 Computer networking evolved from communications terminal computer communication the ob-

Ethernet is a branching broadcast communication system for carrying digital data packets among locally distributed computing stations. The packet transport mechanism provided by Ethernet has been used to build systems which can be viewed as either local computer networks or loosely coupled multiprocessors. An Ethernet's shared communication facility, its Ether, is a passive broadcast medium with no central control. Coordination of access to the Ether for packet broadcasts is

20 milestones in Ethernet's first 40 years

The idea of protocols/code for communication



Channel or medium and access control

