The Beginning: A "Network of Networks"

The seeds of the Internet were planted in

- <mark>1969</mark>
- ADVANCED RESEARCH PROJECT AGENCY ARPA (U.S. Department of Defense)
- began connecting computers
- at different universities and defense contractors
- ARPANET



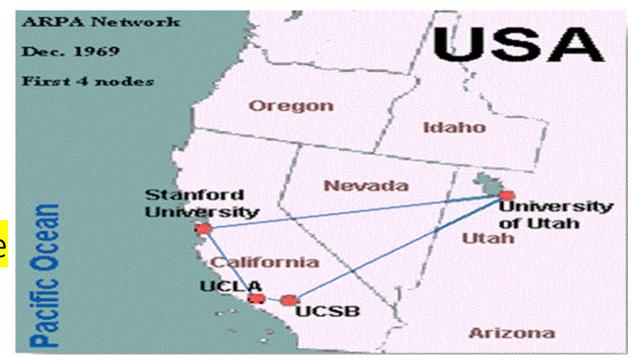
ARPA, 1958-1972

The goal of this early project was

- to create a large computer network
- with multiple paths
- in the form of <u>telephone lines</u>
- that could survive a nuclear attack or a natural disaster such as an earthquake.

At first, ARPANET was basically a

- large network
- serving only a handful of users,
- but it <u>expanded rapidly</u>.
- jumped across the Atlantic to Europe
- -in <mark>1973</mark>,
- and it never stopped growing.



After the <u>Defense Department</u> stopped funding the network in the mid-1980s,

- another <u>federal</u> agency
- the NATIONAL SCIENCE FOUNDATION <mark>NSF</mark>
- joined the project.



- NSF
- established five "supercomputing centers"
- that were available to anyone who wanted to use them
- for <u>academic research purposes</u>.
- quickly discovered
- the existing network
- could not handle the load.
- created a
- new, higher-capacity network,
- called <mark>NSFnet</mark>
- The <u>link</u> between ARPANET, NSFnet, and other networks
- was called the Internet

- The NSF did not permit private business
- therefore, several <u>private telecommunications companies</u> built their <u>own</u> <u>network</u>
- these <u>private portions</u> of the Internet
- were not limited by NSFnet as "appropriate use" restrictions,
- so it became possible to use the Internet
- to distribute business and commercial information.
- The <u>original ARPANET</u> was <u>shut down in 1990</u>,
- and government funding for NSFnet was discontinued in 1995,
- but the commercial Internet backbone services replaced them
- by the early 1990s, interest in the Internet began to expand dramatically

The system that had been created as a tool for surviving a nuclear war found its way into businesses and homes. Now, advertisements for movies are far more common online than collaborations on physics research.



Today: Still Growing

Today, the Internet connects thousands of networks and hundreds of millions of users around the world.



It is a

- huge, cooperative community
- with no central ownership.

This lack of ownership is an important feature of the Internet, because it means that <u>no</u> single person or group controls the network.

- The Internet is open to anyone who can access it.
- If you can use a computer
- and if the computer is connected to the Internet,
- you are free not only to use the resources posted by others, but to create resources of your own

This <u>openness</u> has <u>attracted millions of users</u> to the Internet. <u>Internet access was available to nearly one-half billion</u> <u>people worldwide in 2001</u>. The number of actual users continues to climb dramatically.

