What we'll cover today

- Basic definitions
  - What is a computer network?
  - What is the Internet, and what does it look like?
- A brief history of the Internet

The Internet

- Example of a (very) large-scale computer network
- Consists of many smaller computer networks that are interconnected
  - Recursively defined!
- Because it's so popular and so ubiquitous, we'll be using the Internet to frame most of the concepts in this course

Q: What is a computer network, anyway?
Q: What does the Internet look like?

In the beginning...there was ARPANET

Q: Where did the Internet come from, and what did it look like in the past?
ARPANET, 1974

ARPANET LOGICAL MAP, MARCH 1977

ARPANET GEOGRAPHIC MAP, OCTOBER 1980

Newsgroups: NET.general

After welcoming several new sites to Sernet, I’m enclosing the current map. Any sites which are missing or wrong please let me know.

UNICOM Logical Map
June 1, 1981
- = Direct links  
| = Backbone links
B = ARPANET links

**Note:** This map does not show ARPANET's experimental satellite connections.

**Note:** Site names may not be accurate.
NSFnet, 1986

- Backbone speed was 56kbps
- 2000 hosts
- Grew to ~30,000 hosts by the end of 1987
- TCP/IP based
NSFnet, 1988 (T1 backbone)

Backbone is 45 Mbps; number of hosts > 1 million

The Internet, 1998

Source: Internet Software Consortium [www.isc.org]
Acknowledgements

- Thanks to Scott Jordan for the idea for this lecture and for pointers to the diagrams
- Slides 7-13, 16 courtesy of “An Atlas of Cyberspaces”
  (http://www.cybergeography.org/atlas/historical.html)
- Slides 14, 17, 18 courtesy of the Computer History Museum Online
  (http://www.computerhistory.org/exhibits/internet_history/internet_history_80s.page)
- Slide 19 courtesy of the Internet Software Consortium (http://www.isc.org/)
- Slides 20-21 courtesy of the Internet Mapping Project
  (http://www.lumeta.com/mapping.html)
- Slides 22-24 courtesy of CAIDA
  (http://www.caida.org/analysis/topology/as_core_network/historical.xml)