Introduction to the Internet
MUMT 621

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Introduction to the Internet

- What is the Internet?

- History of the Internet

- What is the web?

- The Internet network

What is Internet?

- The difference between:

  - intranet – within an organization, e.g., McGill VPN

  - extranet – network available to specific organizations outside of an organization

  - internet – set of interconnected networks

  - The Internet – the global network of computers

History of the Internet

Who invented the Internet?
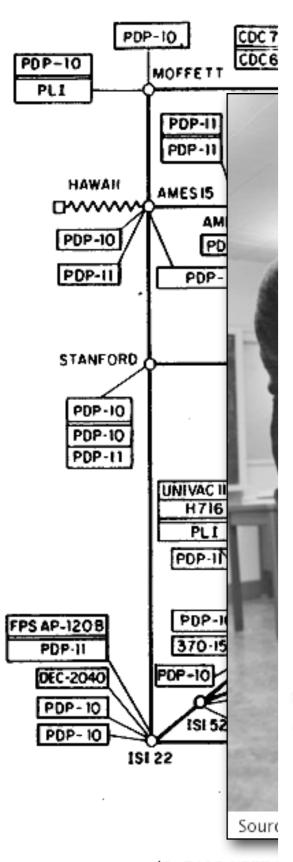
Did Al Gore invent the Internet?

Did Al Gore invent the Internet?

History of the Internet

- In defence of Al Gore:

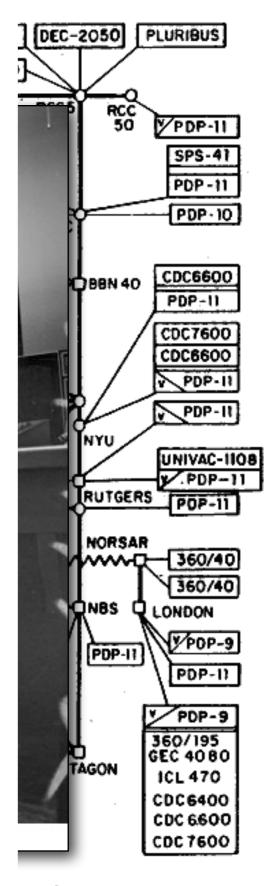 - http://www.eecs.umich.edu/~fessler/misc/funny/gore,net.txt

  "Al Gore was the first political leader to recognize the importance of the Internet and to promote and support its development." — Bob Kahn and Vint Cerf
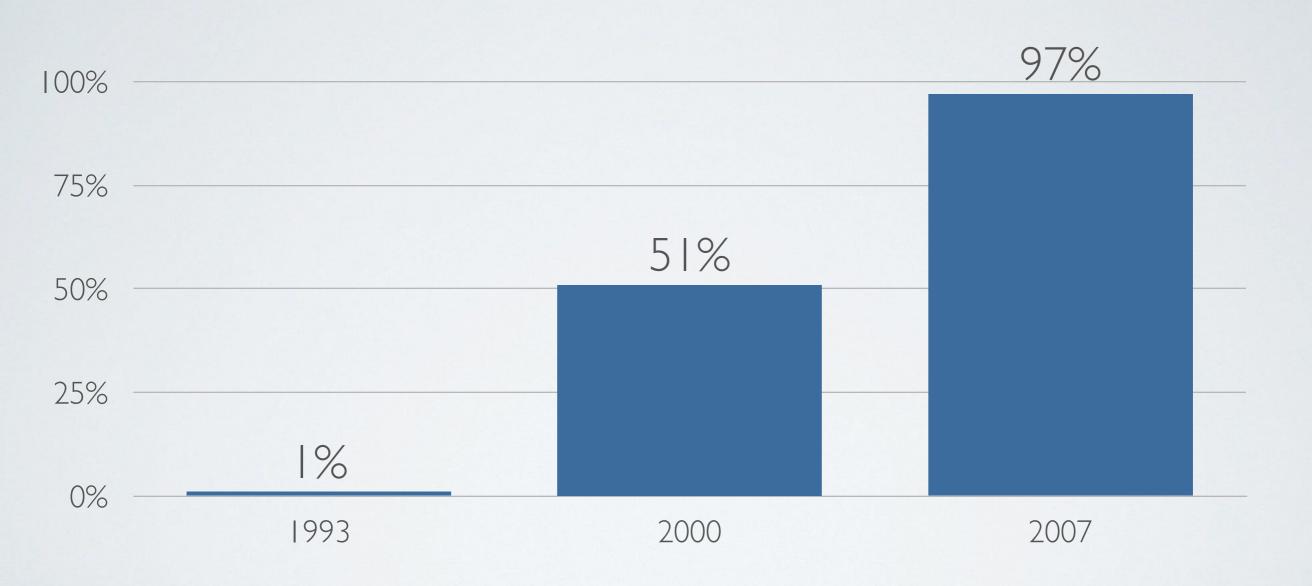
THE
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PROGRAMMING LANGUAGE

Brian W. Kernighan • Dennis M. Ritchie
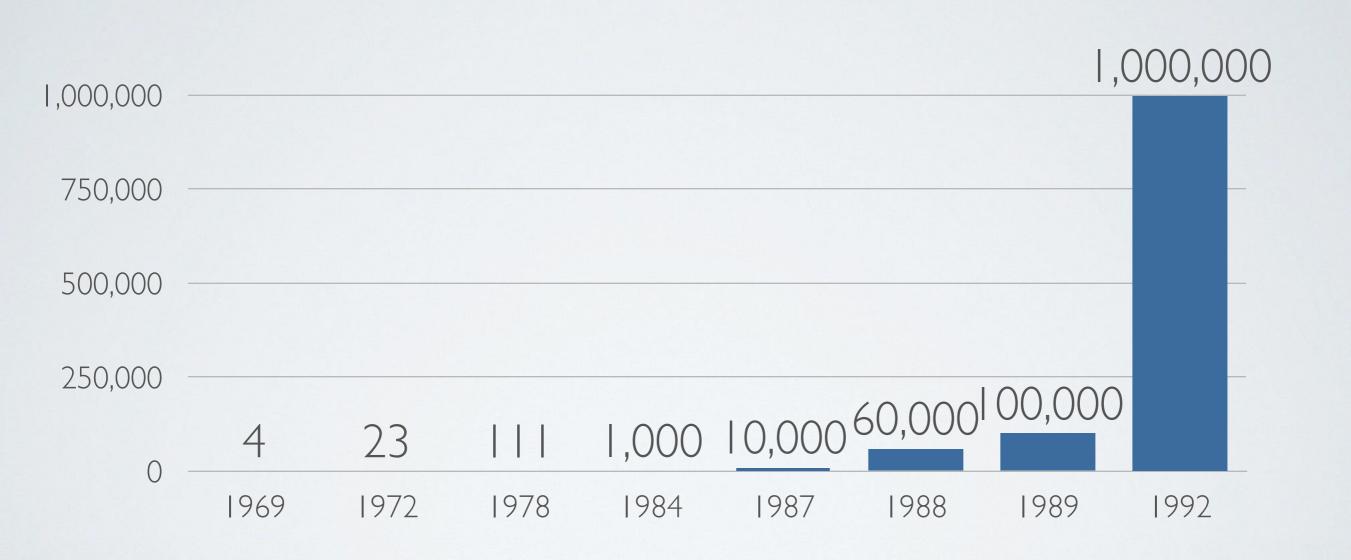
History of the Internet: Commercialization

- 1990's: Emergence of Internet Service Providers (ISPs)

- 1995: Complete commercialization (no restriction to carry commercial traffic)

  - public e-mail (AOL)
  - instant messaging
  - VoIP (Voice over Internet Protocol) (e.g., Skype)
  - WWW
    - online shopping, wikis, blogs, Facebook, Twitter

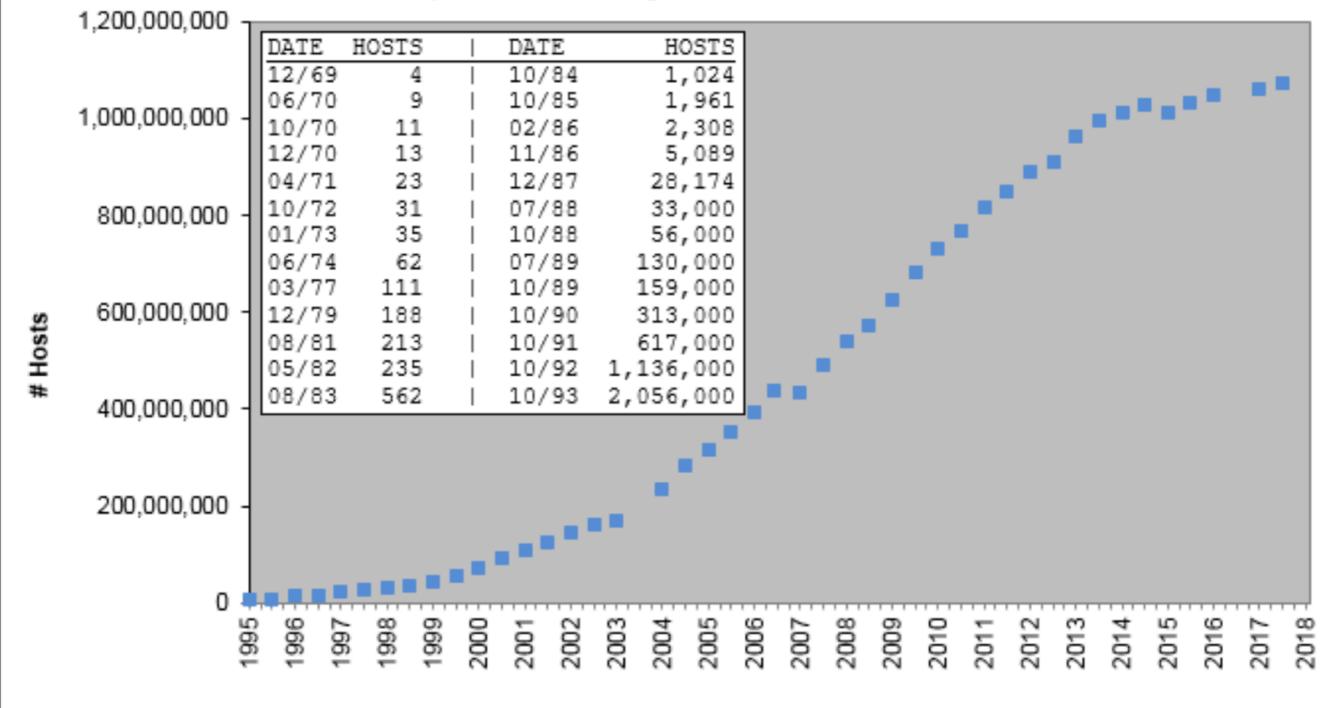# The percentage of two-way telecommunication carried on the Internet

Internet Hosts

Hobbes' Internet Timeline Copyright ©2018 Robert H Zakon
https://www.zakon.org/robert/internet/timeline/

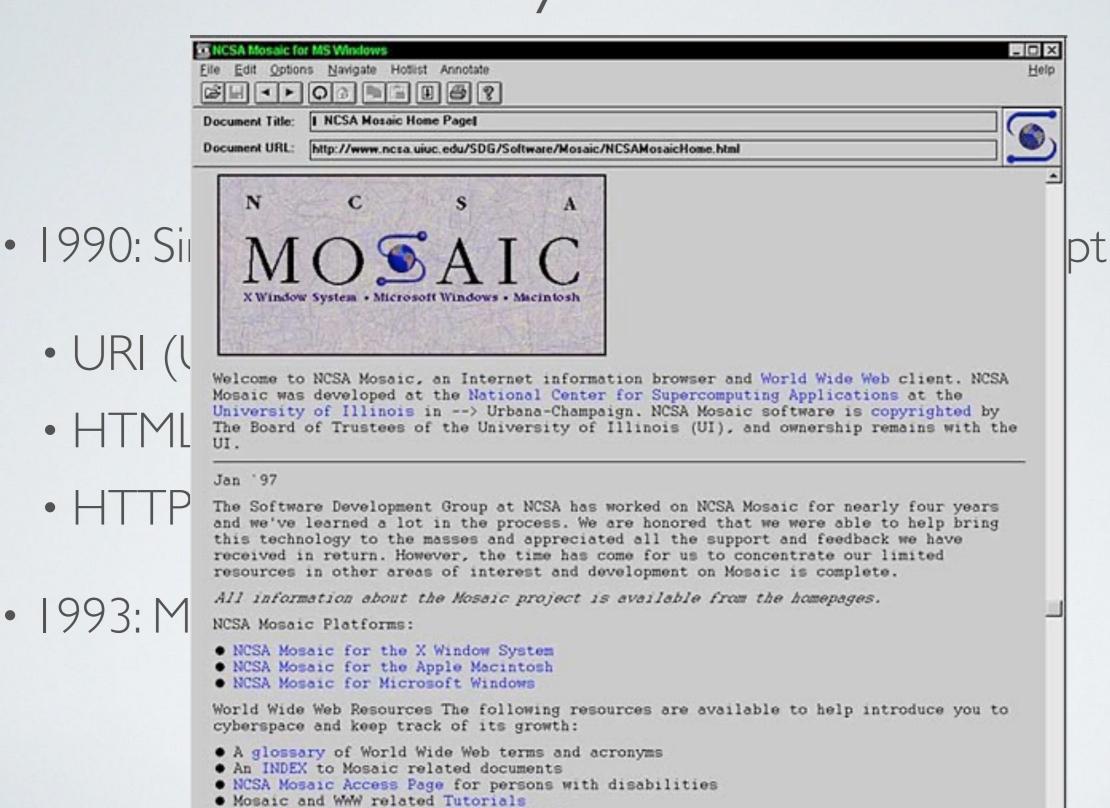| DATE	HOSTS		DATE	HOSTS
12/69	4		10/84	1,024
06/70	9		10/85	1,961
10/70	11		02/86	2,308
12/70	13		11/86	5,089
04/71	23		12/87	28,174
10/72	31		07/88	33,000
01/73	35		10/88	56,000
06/74	62		07/89	130,000
03/77	111		10/89	159,000
12/79	188		10/90	313,000
08/81	213		10/91	617,000
05/82	235		10/92	1,136,000
08/83	562		10/93	2,056,000

- http://www.internetworldstats.com/stats.htm

History of World Wide Web: Precursors

- 1990: Archie search engine

  - Developed at McGill to search FTP sites (~200 sites)

- 1991: WAIS (Wide Area Information Server)

- 1991: Gopher (search documents)

History of WWW

- 1990: Si... pt
  - URI (U...
  - HTML...
  - HTTP...
- 1993: M...

History of WWW: Search Engines

- 1993: Excite

- 1994: Yahoo; WebCrawler (first full-text search engine), Lycos

- 1995: Infoseek, AltaVista (natural language inquires)

- 1997: Google

Google.com 1998/11/11

- 2012: "Google has indexed over 30 trillion pages" [wikipedia]

Google.com 1998/11/11

- 2012: "Google has indexed over 30 trillion pages" [wikipedia]
- 2016: "Google's search knows about over 130 trillion pages" [searchengineland.com]

Questions

- What is an IP (Internet Protocol) address?

- What is a domain name?

- What is a packet?

- What is TCP/IP (Transmission Control Protocol/Internet Protocol?

- What is UDP (User Diagram Protocol)?

- What is a web browser?

- What is the World Wide Web?

- What is cloud computing?