

History of the Internet

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Outline

- Origins of the Internet
- Internet timeline from 1970s until today
- The Internet today

Origins of the Internet

- J.C.R. Licklider of MIT in August 1962 wrote about the *Galactic Network* concept
- Became first head of Computer Research Program at *DARPA (Defense Advanced Research Projects Agency)* and convinced his successors about the importance of the project



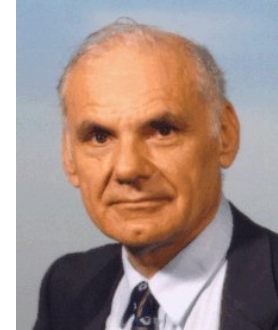
Origins of the Internet (Cont'd)

- Leonard Kleinrock at MIT published the first paper and book in packet switching theory in 1961 and 1964, respectively.
- Kleinrock convinced Laurence G. Roberts of the theoretical feasibility of the project.



Origins of the Internet (Cont'd)

- In 1966, Roberts went to DARPA and started development on *ARPANET*
- ARPANET grew to become the Internet we know today



Internet Timeline: 1970s

- 1971: 15 nodes (23 hosts) all at US locations
- 1972: Ray Tomlinson modifies email program for use on ARPANET; it becomes a big hit
- 1973: First international connections to ARPANET (England and Norway)
- 1976: Elizabeth II sends email
- 1979: USENET (Newsgroups) established
- 1979: Scott Fahlman suggests use of emoticons, :-) and :-(



Internet Timeline: 1980s

- 1983: ARPANET split into ARPANET (civilian) and MILNET (military)
- 1983: Berkley UNIX Desktop OS includes IP networking software
- 1984: Domain Name System (DNS) introduced
- 1985: File Transfer Protocol (FTP) introduced
- 1987: Number of hosts exceeds 10,000
- 1988: Morris Worm
- 1989: 100,000 hosts



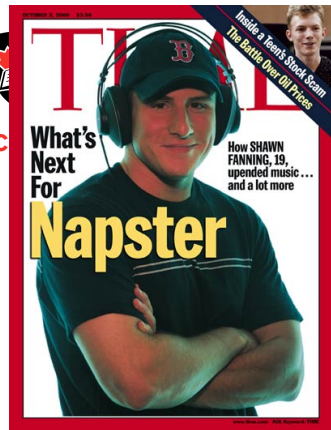
Internet Timeline: 1990s

- 1990: ARPANET ceases to exist
- 1990: Tim Berners-Lee (CERN) invents HTTP and implements server and browser
- 1992: Jean Armour Polly: *surfing the Internet*
- 1993: *NCSA Mosaic* takes the Internet by storm
- 1994: Pizza Hut takes orders online
- 1995: Sun launches Java (including applets)
- 1995: Netscape introduces LiveScript (JavaScript)
- 1996: Beginning of Browser Wars (Mosaic vs. Netscape then later Netscape vs. Microsoft)



Internet Timeline: 1990s (Cont'd)

- 1996: US Telecoms lobby to ban Internet phones
- 1997: Domain `business.com` sells for \$150,000
- 1998: Network Solutions registers 2,000,000th domain name
- 1999: A forged web page raises stocks of small technology company by 31% in one day
- 1999: US DoD requires all military systems to connect via NIPRNET, not directly to Internet
- 1999: Napster popularizes peer-to-peer file sharing



Internet Timeline: 2000s

- 2000: A massive DoS attack is launched against Yahoo, Amazon, and eBay
- 2000: Code Red worm and Sircam virus infect thousands of web servers and email accounts
- 2002: Weblogs (blogs) become hip
- 2003: Year of viruses and worms: Slammer, Sobig.F, and Blaster

Internet Timeline: Today

- Most widely-used Internet protocol: HTTP
- Most popular web browsers (Nov. 2006) [highly debatable]
 - Internet Explorer: 59%
 - Firefox: 30%
 - Mozilla, Netscape, Opera: 5%
- Highest bandwidth consumption: Peer-to-peer file sharing protocols

Summary

- Internet started out as US DoD project (ARPANET)
- Major Internet Protocols and Formats
 - Email (1973)
 - Newsgroups (1979)
 - File Transfer Protocol (1985)
 - Archie, Gopher (1990s)
 - Hypertext Transfer Protocol (HTTP -19 90,1993)
 - Hypertext Markup Language (HTML -199 3)
 - Real Simple Syndication (RSS - 1999)
- Major additions to HTTP and HTML
 - Java (1995), JavaScript (1995), Flash and Shockwave (1996)

Online References

- The Internet Society History Page
 - <http://www.isoc.org/internet/history/>
- Hobbes' Internet Timeline
 - <http://www.zakon.org/robert/internet/timeline/>
- Browser Statistics
 - http://www.w3schools.com/browsers/browsers_stats.asp