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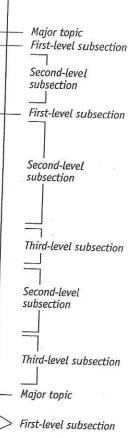
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## HISTORY OF THE INTERNET

- I. Background of Internet technology
  - A. Pioneering communications technology
    - 1. Morse and telegraph
    - 2. Calculating machines
    - 3. Silicon chip
    - 4. Remote-access computers
  - B. Development and evolution of network technology
    - 1. Galactic Network envisioned by John Licklider of the Department of Defense's DARPA (Defense Advanced Research Projects Agency) in 1962
    - 2. Packet-switching theories published by Leonard Kleinrock of MIT in 1961
    - 3. First wide-area computer network developed by Lawrence Roberts and Thomas Merrill of MIT in 1965
    - 4. Computer networks, packet-switching networks, and packet-networks research presented at 1967 conference by three groups whose research took place without knowledge of one another
      - a. MIT
      - b. RAND Corporation
      - c. National Physical Laboratory (UK)
    - 5. Interface Message Processor (IMP) developed by Bolt, Beranek &
  - 6. ARPANET created with the connecting of four host computers at UCLA, Stanford Research Institute, UC Santa Barbara, and the University of
    - a. Person-to-person communication (e-mail) introduced in 1972
    - b. Host-to-host protocols developed in early 1970s
    - c. Transmission control protocol/Internet protocol (TCP/IP) developed in 1974
- II. Growth of Internet technology
  - A. Competing network techniques and protocols throughout the mid-1970s and early 1980s
  - B. Improvements and standardization of techniques and protocols with increased users in the mid-1980s and the early 1990s
    - 1. TCP/IP adopted as standard protocol in 1984
    - 2. Domain Name System (DNS) introduced in 1984
    - 3. U.S. Congress funds national research and infrastructure improvement through High Performance Computing Act
    - World Wide Web browser/editor program released to public in 1991, simplifying global information sharing
    - Mosaic browser created in 1993, making Internet easier to use and graphically richer
  - C. Transition from a community of scholars, scientists, and defense contractors to widespread infrastructure in the late 1980s and early 1990s
    - 1. Governments encourage use of Internet throughout higher education system
      - a. JANET serves British universities (1984)
      - NSFNET serves U.S. universities (1985), eventually becoming the backbone of the Internet
    - 2. Internet workshops target private sector in the mid-1980s

Figure 2-1 Sample Outline (continued)



Second-level subsection