Internet History

1 1961–1972: Early Packet-Switching Principles

- 1961: Kleinrock develops queueing theory.
- 1964: Baran proposes packet-switching for military networks.
- 1967: ARPAnet conceived by ARPA.
- 1969: First ARPAnet node operational.
- 1972:
  - ARPAnet public demo.
  - NCP — first host-host protocol.
  - First e-mail program.
  - ARPAnet grows to 15 nodes.

2 1972–1980: Internetworking, New and Proprietary Networks

- 1970: ALOHAnet satellite network.
- 1974: Cerf and Kahn: architecture for interconnecting networks.
- 1976: Ethernet developed at Xerox PARC.
- Late 1970s: Proprietary architectures (DECnet, SNA, XNA).
- 1979: ARPAnet grows to 200 nodes.

2.1 Cerf and Kahn's Internetworking Principles

- Minimalism and autonomy.
- Best-effort service model.
- Stateless routing.
- Decentralized control.

3 1980–1990: New Protocols, Proliferation of Networks

- 1982: SMTP e-mail protocol.
- 1983: TCP/IP deployment; DNS defined.
- 1985: FTP protocol.
- 1988: TCP congestion control.
- New national networks: CSnet, BITnet, NSFnet, Minitel.
- 100,000 hosts connected.

4 1990–2000s: Commercialization, the Web, New Applications

- Early 1990s: ARPAnet decommissioned.
- 1991: NSF lifts commercial restrictions on NSFnet.
- Early 1990s: World Wide Web emerges (HTML, HTTP by Berners-Lee).
- 1994: Mosaic browser.
- Late 1990s: Web commercialization.
- Late 1990s–2000s: Killer apps, security, 50M hosts.

5 2005–Present: Scale, SDN, Mobility, Cloud

- Broadband access deployment (10–100s Mbps).
- 2008: Software-defined networking (SDN).
- High-speed wireless: 4G/5G, WiFi.
- Providers create private networks for faster access.
- Cloud services: AWS, Azure.
- Rise of smartphones; mobile ¿ fixed devices (2017).
- 15B devices connected (2023, Statista).

Vertical Timeline of Internet History