PACKET SWITCHING

How a 1960s networking idea became the foundation of all global communication.

In the 1960s, researchers proposed a radical idea: break data into small "packets" and send each one independently across a distributed network. This approach allowed networks to survive outages, scale globally, and transmit information efficiently. Packet switching became the foundation for ARPANET and later the entire modern internet.

1962: THE CONCEPT IS BORN (PAUL BARAN)

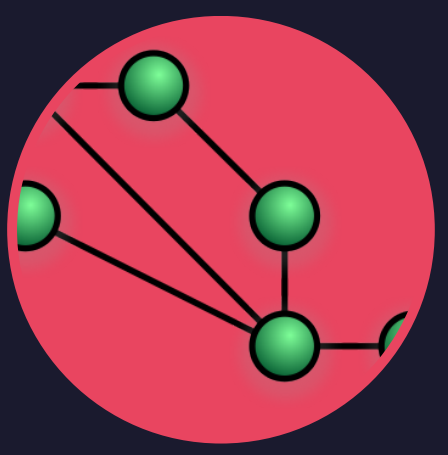
Paul Baran at RAND Corporation developed the first detailed design for a distributed, packet-switched network to allow communication to survive a nuclear attack.

1965: DONALD DAVIES COINES THE TERM “PACKET„

Independently of Baran, Donald Davies at the UK's National Physical Laboratory formalized the idea and introduced the word “packet”, designing one of the earliest packet switching test networks.

1969: ARPANET BECOMES THE FIRST PACKET-SWITCHED NETWORK

ARPANET launched with four nodes (UCLA, Stanford, UCSB, Utah), using packet switching to route data.
The first message ever sent crashed after two letters: “LO” instead of “LOGIN.”



1973–1983: TCP/IP STANDARDIZES PACKET SWITCHING

Vint Cerf and Bob Kahn developed TCP/IP, the universal protocol suite for packet switched communication. On January 1, 1983, ARPANET officially switched to TCP/IP; widely considered the birth of the modern internet.

TODAY: PACKET SWITCHING POWERS ALL DIGITAL COMMUNICATION

Nearly every network, Wi-Fi, 4G/5G, satellite, streaming, cloud services, relies on packet switching. The concept allows billions of devices to communicate reliably across an imperfect, global infrastructure.

Sources

https://www.rand.org/pubs/research_memoranda/RM3420.html
https://ethw.org/Packet_Switching
https://newsroom.ucla.edu/magazine/gene-block-milestone-in-technology
https://dev.to/ashevelyov/january-1-1983-the-day-the-internet-came-alive-with-tcpip-21b5