Wide Area Networks

• What is a WAN
  • Types of Networks
  • Global and Regional Networks
  • Metropolitan Area Networks
  • WANS

• Internet and WWW

• Types of connections used in gaming
Types of Computer Networks

• A local area network (LAN) is a computer network that connects a cluster of users and devices within a building and is managed on site.

• Multiple LANs can be internetworked together to form Building Area Networks (BANs) or Metropolitan Area Networks (MANs).

• LANs, BANs, and MANs can be internetworked together over large geographical regions to form Wide Area Networks (WANs).
Global and Regional Networks

• The telephone system is a global network allowing users from virtually anywhere in the world to call another user. The global telephone network is composed of smaller telephone networks from each country.
Metropolitan Area Networks

- When two or more LANs are linked within a city or limited geographic area, it is called a metropolitan-area network (MAN).
Wide Area Networks

• A wide-area network (WAN) has few geographic limits. WANs can cover a city, country, or even the entire world.
• The Internet is an example of a WAN.
Where the WEB Originated, the Internet

- ARPANET 1969 - 1989
- Internet growth
- Uses of the Internet (ftp, e-mail, games, Gopher)
- European Laboratory for Particle Physics (CERN) (*Centre European pour la Recherche Nucleaire*)
- National Center for Supercomputer Applications
- World Wide Web a.k.a. WEB
The ARPANET 1969 - 1989

- Advanced Research Projects Agency 1957 post Sputnik
- ARPANET Sept 1969
Internet Growth

- 1969: 4 Hosts
- 1981: 210 Hosts
- 1989: 130,000 Hosts
- 1998: 36 Million Hosts
- 2003: 172 Million Hosts
Uses of the Internet
Early (Command line based)

- ftp (a.k.a. file transfer protocol)
- e-mail (similar look and feel to ftp)
- text based games
- gopher sites
European Laboratory for Particle Physics

- Founded in 1949
- Approx. 8000 personnel
- Created the WEB Server Protocol - 1990
  - Hypertext Transfer Protocol (HTTP)
  - Uniform Resource Locator (URL)
  - Hypertext Markup Language
  - Side Effect of CERN’s research
- CERN also created a browser
  - Character based
  - Needed a Nextstep computer
In 1992 the world had 50 WEB Sites
NCSA Mosaic - 1993 (Marc Andreesen)
Netscape - 1994
100,000+ WEB Sites Dec 1995
  - Microsoft Declares War on Netscape
  - Exponential growth
Mosaic/Netscape GUI Interface
World Wide Web
a.k.a. WEB

- Client Server System
  - Millions of Sites (Servers)
  - 100s of Millions - browsers (clients)

- Internet traffic
  - Number of Hosts
    - https://www.isc.org/solutions/survey/history
  - Number of Users

- Not bad for a side-effect
WANs used for Gaming

• Probably the first that would come to mind would be the state wide progressives
  • Megabucks
  • Aristocrat's newest multi-site progressive, Loco Loot
    • Usually found at Indian Casinos

• Megabucks
  • State-wide slot jackpot network
    • Owned and run by the International Game Technology (IGT)
    • Operated in many states:
      • Nevada
      • California
      • New Jersey
      • Mississippi
WANs used for Gaming

• Megabucks
  • State-wide slot jackpot network
    • The networks don’t cross state lines
      • Thus each state that has a Megabucks network has their own jackpot that is independent of the other ones
  • History
    • The version in Nevada has operated for approximately 22 years
  • Communications
    • When it started only leased lines and dial up services from the telephone companies
    • Types of services available starting in the 1980s
      • Dial-up using ISDN or POTS
      • Frame Relay
WANs used for Gaming

• Megabucks
  • Communications
    • Many older installs still use their original network connections

• Aristocrat’s Hyperlink Produces
  • Examples
    • Local Loot
      • Supports local and multisite progressive slot games
    • Cash Express Player’s World
  • Characteristics
    • Hyperlink is a patented linked progressive gaming product developed by Aristocrat.
    • Banks of gaming machines are linked together to drive the randomly triggered four level jackpot.
WANs used for Gaming

• Aristocrat‘s Hyperlink Produces
  • Characteristics
    • Jackpot is triggered at random and players move into a second screen feature to determine what level of the jackpot is won
  • Communications technologies Now Available
    • Virtual Private Networks over shared networks
    • Leased private networks
    • Leased communications lines
    • Dial-up