Fundamentals: Network Structure

A Basic Network

Local Calling

US Artifact: “LATA”s
Long-Distance Competition

Local Competition
US: iLEC and cLECs

Wireless

But Internet Calling is Different, right???????
Wire-Based Competition using Voice over IP

Public policy and Regulatory History

- It may be history, but
  - Policy decision drive network topology
    1. Technology has to adapt to implement policy decisions
    2. Policy creates “loopholes”, or side-effects that make otherwise irrational technology choices attractive

Key US Policy Choices

- Carterphone - 1968
  - De-Couple CPE from the network providers, force interface standards
- Specialized Common Carriers 1971-1972
  - What do you carry and who do you serve?
- After the MFJ - 1982
  - Customer-driven provider selection

Policy Choices cont...

- The Telecom Act of 1996
  - Local competition requires interconnection and Number portability
  - The “Carrier of Last Resort”
    • Universal Service Fund
    • Bypassed by VoIP
  - Number portability and emergency services