Network Structure

ITS 220
A Basic Network

Subscriber

Central Office

Local Loop

Trunk
Local Calling

Class 5

Class 4
Toll Office
Divestiture: “LATA”s
Long-Distance Competition
Local Competition

cLEC

iLEC
Wireless
Wire-Based Competition using Voice over IP
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