15.020 Competition in Telecoms Recitation #5 VoIP

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What is VoIP?

- VoIP = Voice Over Internet Protocol

→Voice communication services that use the Internet rather than the public switched telephone network (PSTN) as a transport

→Major implication: Packetizing voice data and sending it over a packet-switched network instead of an analog/digital circuit-switched network

Core Standard

- **H.323**: Standard approved by the International Telecommunication Union (ITU) in 1996 to promote compatibility in videoconference transmissions over IP networks.

→ Provides consistency in audio and video transmissions when QoS is not guaranteed

A Look at the Protocol Stack

- GSTN: Global Switched Telephone Network
- G.711: Voice codec
- G.723: Voice codec
- CSU: Channel Service Unit
- DSU: Data Service Unit
- H.245: Control Signaling Protocol
- RTP: Real Time Control Protocol
- TCP: Transmission Control Protocol
- UDP: User Datagram Protocol

Gateway Functionality

- Gateway Server

- Voice Prompts

- Authorization & Identification

- Call Control

- SMNP MIB

- QoS Records

- Billing Records

- Maintenance

- Administration

- Hardware API

- H.323 API

- Gateway Hardware

- H.323 Protocol Stack