Is Real-Time Communication on Internet Possible?

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Answer

- No...
- Yes...
- May be...
- It depends!
Is it possible to swim in a home?

- What, where, when?

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What is Real-time Communication?

- Need bandwidth, traffic management, signaling
- Compression algorithms, Storage

[Diagram showing the relationship between response speed, bandwidth, and applications such as voice, video conferencing, entertainment video, and HDTV.]
When?

- 1996: No
- 2001: May be
- 2006: Certainly Yes
How Far?

- LAN: Within a building or campus?
- WAN: Within USA?
- GAN: Remote corners of the world?
What is Internet?

- The world-wide interconnection of networks
- TCP/IP end-to-end (no ATM)?
- ATM Backbone?
- ATM End-to-end (no TCP/IP)?
Traffic Management on the Information Superhighway

1. CAC
2. Shaping
3. Scheduling
4. Priority
5. Traffic Monitoring and feedback
6. Policing
Traffic Management

- Connection Admission Control: Resource Reservation
- Traffic Shaping
- Deadline Scheduling
- Priority
- Dynamic Feedback
IP vs ATM
IP vs ATM

- Traffic management
- Signaling (resource reservation)
- QoS based Routing
- World-wide Addressing
- Connections: Soft vs Hard
- Receiver oriented vs Source oriented
- n-to-n vs 1-to-n
- Evolution vs revolution
Old House vs New House
Thank You!