

# Remote attendance for IETF meeting

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# Problems

- Need to start 3 different applications: Slides, audio stream and Jabber client.
- Audio quality problem and servers instability.
- People forget to state their name.
- Current presentation or current slide unknown.
- Laser pointer does not work remotely.

# Proposal

- Sponsor the design, development and deployment of a system to solve this problems.
- Remote participation and video support are excluded from this proposal.
- Make a point about the end to end argument.
- Currently only prototypes.

# Meeting room microphones

- Each microphone in a meeting room is attached to a small computer directly sending RTP over IPv6 multicast.
- The small computer is powered over the Ethernet cable.
- Audio is encoded with a version of Speex modified to support orthogonal layer encoding.

# Wireless microphone

- The presenter uses an open source cellphone connected to a lavalier microphone to send RTP over IPv6 multicast.
- Uses Ethernet over Bluetooth instead of Wifi.

# Remote attending

- Any client that can receive IPv6 multicast can be used but IPv6 multicast is currently not deployed.
- Zap is an open source SIP client built on the Mozilla platform.
- Connect to modified TURN servers that relay between IPv4 unicast and IPv6 multicast.

# Receiver in meeting room

- A small computer installed in the meeting room joins the IPv6 multicast group, mixes the audio streams from the various microphones and sends to the amplification system.
- Provides instant feedback.
- Also acts as an Ethernet bridge for the Bluetooth connection from the wireless microphone.

# Presentation slides distribution

- The wireless microphone is also sending the URL and current page of the presentation over IPv6 multicast.
- The Zap client downloads the presentation and change the current slide according to the RTP stream received.
- Possibility to simulate a laser pointer by drawing on the touch screen.

# RFID readers

- Each microphone in a room is coupled with an RFID reader.
- The RFID tag contains the name and email address, not an identifier.
- The name and email address of the person in front of the microphone are sent in an RTCP packet over IPv6 multicast.

# Session announcement

- Session announcements are distributed with SAP.
- An announcement contains the IP address of the microphones participating in the session.
- The microphones also listen to the announcements to know where and when to start to send RTP stream.

# Problems solved

- Needs to start 3 different applications: Slides, audio stream and Jabber client.
- Audio quality problem and servers instability.
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- Laser pointer does not work remotely.

# Deployment

- Deployment at the San Francisco IETF meeting.
- All the sessions will be recorded.
- All protocols designed for this project will be published as I-D, in addition to an I-D describing the general architecture.

# Questions