A Taxonomy of Grouping Semantics for RTP Sources

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Your name here!
Background

• At the Atlanta IETF, discussion of the SRCNAME draft ratholed on confusion on several topics:
  – What a “source” is
  – What terms to use for various concepts in RTP
• We had an ad-hoc breakout meeting afterwards to discuss these issues
• This document is a result of that discussion
  – Didn’t have as many contributions as I’d hoped...
• We also had a breakout this Monday
Naming and Definitions

• This draft tries to:
  – Come up with good names for important concepts
  – Come up with precise definitions for them
  – Still a lot of work to do
    • Most of the names are tentative.
    • Suggestions welcome – but not at the mic, please!

• Issues with naming:
  – A lot of terms are already used, in contradictory ways.
    • “Stream” is the worst offender here
Basic Concepts (1): Synchronization Source

• Synchronization Source
  – “the source of a stream of RTP packets, identified by a 32-bit numeric SSRC identifier carried in the RTP header.”
  – Most commonly, a single flow of encoded media, for a single decoding process.
  – Can also be used for repair flows, sub-flows of a layered encoding, etc.
Basic Concepts (2): Sessions

• RTP Session
  – A communications channel among a group of participants communicating via RTP

• Multimedia Session
  – A group of concurrent, associated RTP sessions
Basic Concepts (3): Media Source Output

- Media Source Output
  - A unique piece of media that can be rendered to a human
  - Can be available in multiple formats, but intended to provide the same experience, modulo quality.
  - Can be composed of several synchronization sources, possibly in different RTP sessions (always the same multimedia session).
  - Probably maps to a CLUE Capture (or Encoding?) or a WebRTC RtcMediaStreamTrack (or its source?).
  - (Called Media Source in the draft; the term Media Source Output was suggested on Monday.)
Group relationship types

- Relationships among media sources
  - Synchronization contexts (identified by CNAME)
  - CLUE Scenes (and their substructures)
  - WebRTC MediaStreams
  - Clock source

- Alternative representations of media sources
  - Simulcast
  - Multi-Stream Transmission (MST) of Layered Codecs

- Robustness and Repair
  - Forward Error Correction
  - Retransmission
Path forward

• We need good names and definitions for concepts
• We may need more concepts defined
• We need to know where to discuss this work
  – rai area mailing list?
• We need more contributors!

Lennox, Gross, you! RTP Source Taxonomy