RTP Considerations for Endpoints sending Multiple Media Streams

draft-lennox-avtcore-rtp-multi-stream-02

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Changes from previous revision

• Merged with *draft-wu-avtcore-multisrc-endpoint-adver*

• New mechanism for describing reporting groups in RTCP
Reporting Group Concept

• A “Reporting Group” is a group of sources (SSRCs) that all originate at the same interface of an endpoint
  – MUST have the same view of an RTP session
• Having a SSRC (Reporting Source) report on remote some set of SSRCs being received
  – Reporting Source(s) will send feedback
  – Multiple SSRC allowed when hitting MTU
• The other SSRCs in a reporting group
  – Send regular SR/RR
  – No report blocks on remote SSRCs
New Reporting Group mechanism

• Reporting sources send report blocks on remote sources.
  – They send a new SDES item “RGRP” identifying the group on whose behalf they’re reporting.
  – Unique Random identifier with Session Scope
• Other sources include a new RTCP packet type “RGRR” listing the SSRCs of the reporting sources reporting on their behalf.
• If a source is in a reporting group, it includes exactly one of these two in every compound RTCP packet that has an SR/RR.
Why a new RTCP packet type for RGRR?

- Originally we thought of making it an SDES item.
- However: RTCP SDES items are defined as being UTF-8 strings; SSRC values are binary.
- Question: any problem with using a whole RTCP packet for this purpose?
  - In 20 years, so far we’ve used 15 of 32 RTCP packet types in the primary assignment range (assuming RTP/RTCP mux).
Remaining open issues

• RTCP scheduling issues when sending from multiple sources in one compound packet
  – How should you calculate your transmission timing?
• How should compound packets with multiple sources affect RTCP’s avg_rtcp_size calculation?
  – Is this in fact a bug in RFC 3550?
Open issues

• How should we signal the use of reporting groups in SDP?
  – Probably will be straightforward, but needs to be defined.

• Does the “you can send RTCP immediately on joining” RTCP timing exception need to be weakened for sessions with lots of sources?
Path forward

- Does the WG want to adopt this work?
- What should the relationship be between this draft and draft-ietf-avtcore-multi-media-rtp-session?
  - Some text in that draft really about multiple sources, not multiple media types – e.g., guidance on choosing RTCP bandwidth with differing source bandwidths.