Receiver-based Real-time Congestion Control

draft-alvestrand-rtcweb-congestion-03
S. Holmer, H. Alvestrand

Changes from -02 to -03

- Jointly processing all streams from the same sender.

- Convert RTP to NTP using RTCP SR reports.

- Feed them all to the same arrival-time filter and over-use detector.

What do we gain?

- Faster reactions.
  - A single arrival-time filter will have more data to process.

- Reduced number of false detections.
  - No self-induced jitter due to streams being processed by different filters.

Open Issues

- A relay server is both a sender and a receiver.

- Receiving clients should jointly process all streams from the relay.

- Must rewrite the NTP time without affecting stream sync.

- What if audio and video is handled by different relay servers?

  - The rewrite can't be done if sync should be kept.

Senders

Relay

Receiver
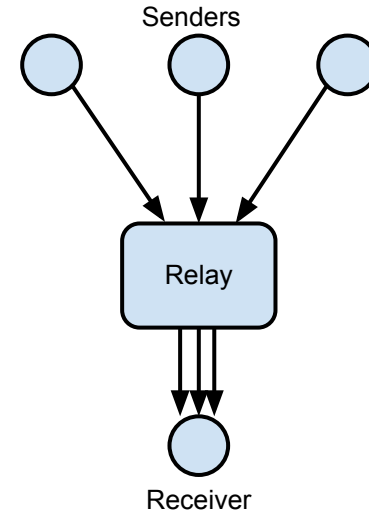
Suggested Solution

- Introduce a send-time RTP header extension.

- Set by a sender according to its system time at the moment of sending.

- Used instead of RFC 5450 (Transmission Time Offsets).

- 3 bytes is still enough. 186 seconds at 90 kHz.