

Inter-Destination Media Synchronizaton for IPTV Environments

draft-stokking-avtcore-idms-for-iptv-00
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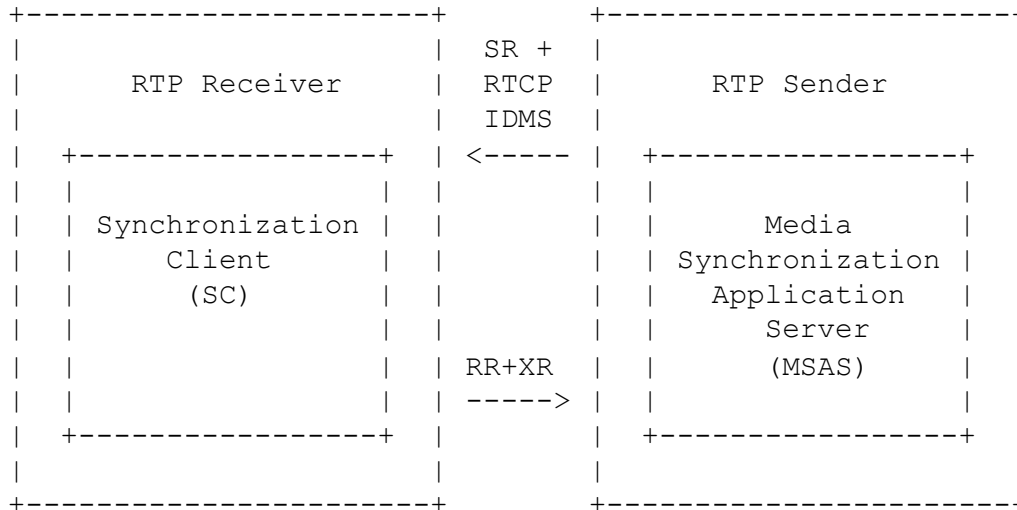
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Please note, involves IPR

Recap: IDMS in RFC 7272

IDMS: To synchronize two or more geographically distributed RTP receivers



Two RTCP extensions in RFC 7272:

- IDMS XR IDMS Report block for reporting RTP packet receipt times and presentation times to the MSAS.
- IDMS Settings packet for sending synchronisation settings instructions to SCs.

RFC 7272 Figure 2: IDMS Architecture Diagram

RFC 7272 seems insufficient in IPTV environments

- Synchronise large numbers (millions) of viewers
 - Problem:** Scalability, as explained in RFC 5760 (RTCP Extensions for SSM sessions with Unicast Feedback)
 - Solution:** Use RFC5760 unicast feedback mechanism, define new sub-report blocks for IDMS XR IDMS Report block
- Synchronise many small groups of viewers of the same television broadcast (i.e. 'Social TV')
 - Problem:** Instructions may differ per group of viewers
 - Solution:** Use unicast for sending IDMS settings instructions
- Synchronise streams with different timelines (HD & SD)
 - Problem:** RTP timestamps in different streams have different random offsets
 - Solution:** Have the media sender(s) indicate correlation between RTP timestamps

Proposed solution directions in draft-stokking-avtcore-idms-for-iptv-00

- Synchronise large numbers (millions) of viewers
 - Define a IDMS Packet Received Sub-Report Block for aggregating packet received timestamps.
 - Define a IDMS Packet Presented Sub-Report Block for aggregating packet presented timestamps.
- Synchronise many small groups of viewers of the same television broadcast (i.e. ‘Social TV’)
 - Co-locate the MSAS with Feedback Target (FT)
 - Supply SCs in one group of viewers with the same FT address
 - SCs send their IDMS XR IDMS Report blocks to the FT, i.e. to the MSAS
 - The MSAS sends IDMS Settings directly back to the source address of these report blocks
- Synchronise streams with different timelines (HD & SD)
 - **Option 1:** Have the sources make sure that the various streams refer to the same wallclock (NTP Timestamp), and use RTCP SRs to correlate timelines
 - **Option 2:** Use Synchronization Packet Sender Types (SPST) 3 and 4, as defined in ETSI TS 183 063, to correlate RTP timestamps from various streams

Next steps

- Do you recognize these problems?
- Is this a topic for AVTCORE?