RTP Retransmission

draft-ietf-avt-selret-05.txt

draft-ietf-avt-rtp-retransmission-02.txt

Solution requirements

- Unicast and (small groups of) Multicast.
- Mixers/Translators.
- Work with all known payload types.
- Multiple payload types in data stream.
- For maximum support of different payload formats the RTP client MUST be able to indicate how many and which RTP packets were lost (sequence number preservation).

Outline

- Retransmission Solution
- Packet Priority Information (SEL)

Sequence Number

- Resending with initial sequence number does not work due to RTCP statistics.

- More than a single way of solving the issue is not recommended for ease of implementation and interoperability.

Possible Solutions (1)

- SSRC multiplexing
  (`Appendix draft-ietf-avt-retransmission-02`)
  - Pro: A single session.
  - Does not necessarily conflict with issues in RTP spec.
  - Is suggested in Generic FEC RFC 2733.
  - Con: Needs investigation of possible issues.

Possible Solutions (2)

- Multiple sessions
  (`draft-ietf-avt-retransmission-02.txt,`
  `draft-ietf-avt-selret-03.txt`)
  – Pro: Simple.
  – Pro: Distinguishable streams at network level.
  – Con: Port usage.

Discarded Solution

- SN-multiplexing:
  (`draft-ietf-avt-selret-05.txt`)
  - Pro: simple, 1 SN-space, 1 session.
  - Pro: Faster detection of lost retransmissions, because no timers.
  - Con: cannot distinguish kind of packets lost, retransmissions or first transmissions?
  - Anyway, we want feedback on this: is anybody interested in keeping this one?

Outline

- Retransmission Solution
- Packet Priority Information (SEL)

The SEL format

- Motivation
  - Low feedback bandwidth.
  - Convey priority information in-band: can be used by proxies to cache important packets.
  - Adaptive feedback: only send when something important is lost.
- Discussion outcome: is there a way to make it more efficient in terms on bandwidth usage?
  - Server-based solution
  - Send RTP or RTCP packets with priority information
  - New RTP header profile
- Evaluate performance of SEL

Conclusions

- Choose one solution which preserves the sequence number.

- Investigate if any of the sequence number preservation solutions are efficient enough to be the single solution.

- Investigate ways to convey packet priority information.

Timeline

- Investigation results as soon as possible, no later than September.

- First merged draft published no later than October.

- WG Last Call December