

RTCP Feedback for Congestion Control

draft-ietf-avtcore-cc-feedback-message-02

Zaheduzzaman Sarker – Ericsson
Colin Perkins – University of Glasgow
Varun Singh – callstats.io
Michael A. Ramalho – Cisco

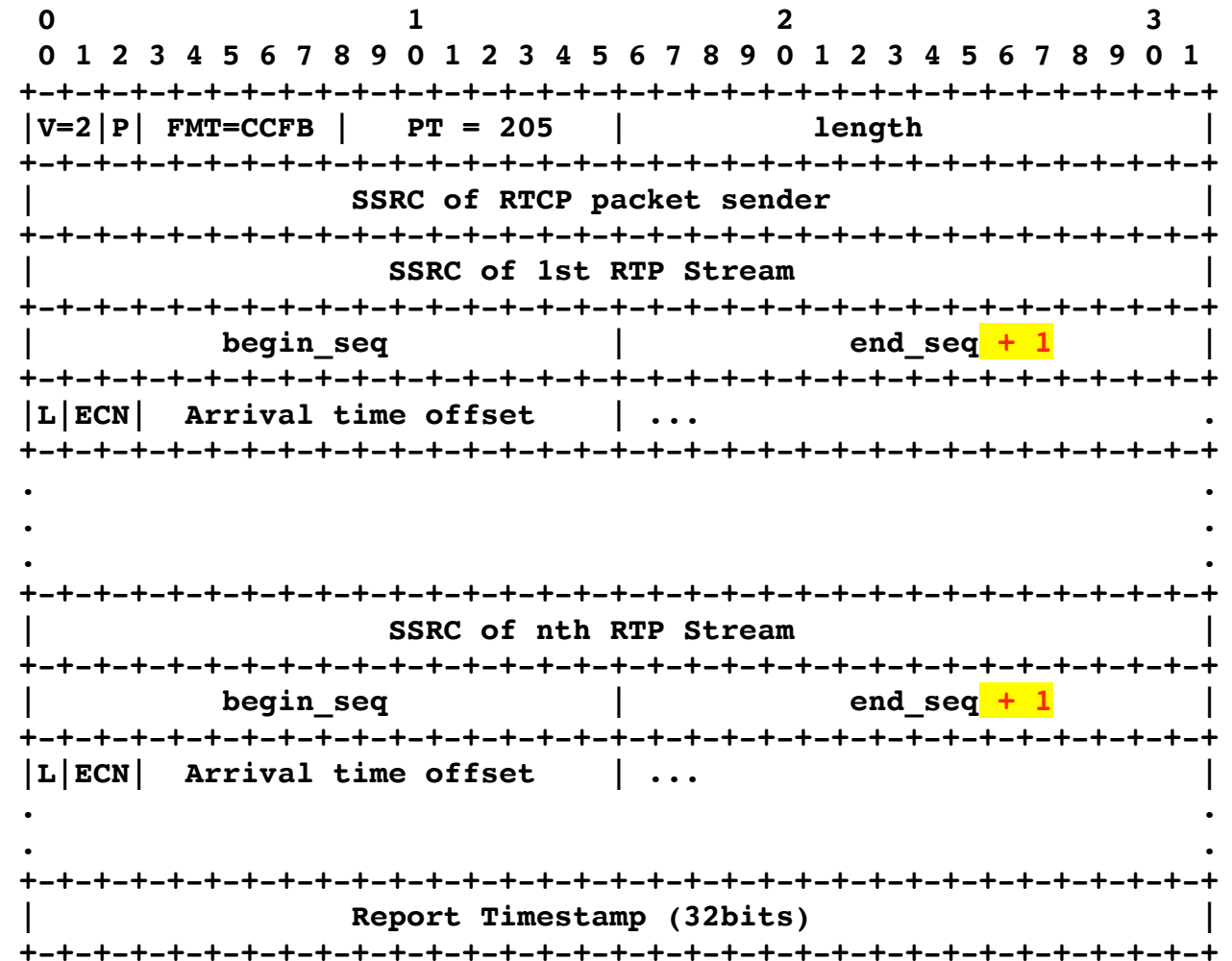
Status

- Submitted -02 to address feedback from Sergio Mena on mailing list and comments from previous meetings
 - Timing and sequence numbers
 - Resynchronising after report loss
 - SDP signalling
- Discussed in AVTCORE earlier in the week

Changes in -02: Timing and Sequence Numbers

- Clarified that NTP-format report timestamp derived from same clock used for NTP-format timestamp in RTCP SR packets

- Reformatted reports:
 - `end_seq` → `end_seq+1`
 - Simplifies implementations
 - Use `begin_seq = end_seq+1` to signal “no packets received”
- Likely change to `begin_seq` and `length` → same benefits, but easier to explain



Changes in -02: Sequence Number Gaps

- Previous versions have language about not accepting reports where the RTP sequence number jumps by more than 16384 packets from the last report – crude check that report is valid
- This adds a note about resynchronisation after burst loss:

Reports that cover RTP sequence number ranges that are more than 16384 (i.e., one quarter of the sequence number space) ahead of the last end_seq received from an SSRC, or behind the last begin_seq received from an SSRC, modulo 65535 to account for wrap-around, SHOULD be ignored. An exception to this occurs if sender has sent RTP packets using more than one quarter of the sequence number space since it last received an RTCP congestion control feedback packet, then a report on recently sent RTP packets ought to be accepted, to allow recovery from report packet loss.

- Also adds a note:

Each report block MUST NOT include more than 16384 packet metric blocks (i.e., it MUST NOT report on more than one quarter of the sequence number space in a single report).

(for clarity – this wasn't actually possible due to MTU limitations)

Changes in -02: Signalling

- Update IANA considerations:

The IANA is requested to register one new RTP/AVPF Transport-Layer Feedback Message in the table for FMT values for RTPFB Payload Types [RFC4585] as defined in Section 3.1:

Name: CCFB
Long name: RTP Congestion Control Feedback
Value: (to be assigned by IANA)
Reference: (RFC number of this document, when published)

The IANA is also requested to register one new SDP "rtcp-fb" attribute "ack" parameter, "ccfb", in the SDP ("ack" and "nack" Attribute Values) registry:

Value name: ccfb
Long name: Congestion Control Feedback
Usable with: ack
Reference: (RFC number of this document, when published)

- The latter allows signalling use of this format using the mechanism defined in RFC 4585

Next Steps

- Intend to submit -03 quickly:
 - Final change packet format (`end_seq+1` → `length`)
 - Add comparison to draft-holmer-rmcat-transport-wide-cc-extensions-01 in appendix – AVTCORE discussion focussed on their relative benefits