RTP Header Extension For SDES Items

draft-westerlund-avtext-sdes-hdr-ext-02

Bo Burman (Ericsson),
Roni Even (Huawei),
Magnus Westerlund (Ericsson),
Mo Zanaty (Cisco)

Overview

- Proposal
- Motivation
- Technical Details
- Adoption

Proposal

- An RTP header extension for RTCP SDES items
- Only for critical Source Description items required to process media immediately and thus fate share with media
- Has been brought up in various discussions and workgroups (RTCWEB, CLUE, MMUSIC)
  - Already used in MMUSIC/RTCWEB
  - But we must do it officially in AVTEXT
- Adopt it as AVTEXT WG item so other work can refer

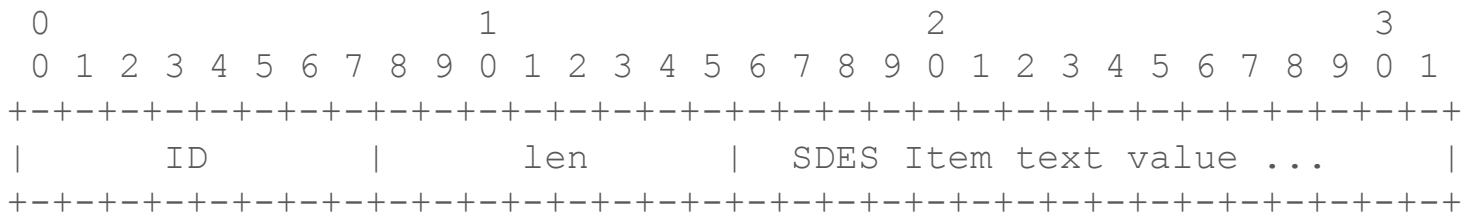
Motivation

- A few different proposals suggest new SDES items that would benefit from a header extension:
  - MID (draft-ietf-mmusic-sdp-bundle-negotiation-12)
  - APPID (draft-even-mmusic-application-token-01)
  - SRCNAME (draft-westerlund-avtext-rtcp-sdes-srcname-03)
  - CLUE Media Capture ID?
- RFC 6051 – RTP header extension for Rapid Synchronisation of RTP Flows provide equivalent to RTCP Sender Report, but not CNAME
  - To enable this to be used in context when also the CNAME information can't provided earlier than the timing information.
- Unclear of the evolution of MSID in SDP (draft-ietf-mmusic-msid-01), may also require in-band signaling in future scenarios?

Motivation

- Fate sharing in delivery between RTP media and critical metadata in RTCP SDES items needed to process the media
- RTP/RTCP Mechanism needed when signaling can't provide the information:
  - Dynamic group memberships
  - Multiplexing or Multicast / Broadcast
  - Signaling node may not have access to actually used SSRCs at time of signaling
- RTP Header Extensions are useful when RTCP delivery is not timely enough:
  - New SSRC in a session
  - New Endpoint joins multiparty session
- RTCP may not be timely enough when:
  - RTP Packet streams are to be decoded directly on reception
  - They have critical metadata in SDES items required to process the media, e.g.:
    - MID for mapping RTP streams to SDP media descriptions
    - CNAME for synchronization context

Technical Details



- Put the SDES item string in RTP header extension:
  - String can be up to 255 bytes, use 1 or 2-byte headers as appropriate for SDES items intended to use in RTP session
  - Header Extension ID maps to SDES Item type via URN
  - Len: Number of bytes in SDES Item String
- Future Extensibility
  - New SDES Items registers a URN and can then use the header extension

Technical Details

- URN Proposal
  - RTP Header Extensions are currently registered in URN space:
    - urn:ietf:params:rtp-hdrext:
  - Propose to allocate a subspace for SDES items:
    - urn:ietf:params:rtp-hdrext:sdes
  - BUNDLE is already using this subspace for MID:
    - urn:ietf:params:rtp-hdrext:sdes:mid
- Resulting URNs:

URN	SDES Item	Reference
urn:ietf:params:rtp-hdrext:sdes:cname	CNAME	[RFC3550]
urn:ietf:params:rtp-hdrext:sdes:mid	MID	[RFCXXXX] BUNDLE

WG Adoption?

- Prior concerns over non-critical SDES items addressed
  - Only critical items that require fate sharing with media remain
- Other WGs already using this
  - BUNDLE MID
- WG Adoption?