

# Session Recording (SIPREC) Protocol

(draft-ietf-siprec-protocol-09)

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# Media Delivery from SRC to SRS

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- ▶ Multiple ways for SRC to deliver recorded media to SRS

- 1) one RTP session for each participant in CS

- ▶ e.g. one for audio from Alice, another for audio from Bob, etc.

- 2) one RTP session for each media type

- ▶ e.g. one for audio, another for video, etc.

- 3) one RTP session for all media

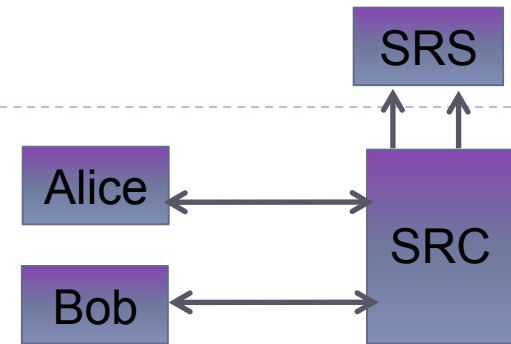
- ▶ e.g. multiple media types from multiple participants

- ▶ Options 1 and 2 MUST be supported

- ▶ Option 3 out of scope as still being defined

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# RTP Session Usages



- ▶ For CS with Alice and Bob, SRC could use:

- ▶ 1) multiple m-lines

- ▶ one m-line for audio from Alice, another for audio from Bob

- ▶ 2) mixing

- ▶ SRC combines audio from Alice and Bob into a single RTP session and sends them towards SRS using its own SSRC

- ▶ 3) SSRC multiplexing

- ▶ SRC multiplexes audio from Alice and Bob into a single RTP session with multiple SSRC values

- ▶ Options 1 and 2 MUST be supported

- ▶ SSRC multiplexing removed from draft (was section 8.3.2)

# Added RTP Session Usage by SRS (section 8.4)

- ▶ SRS that supports recording an audio CS MUST support SRC usage of separate audio m-lines in SDP, one per CS media direction
  - ▶ SRS that supports recording a video CS MUST support SRC usage of separate video m-lines in SDP, one per CS media direction
  - ▶ Examples:
    - ▶ SRS supporting audio call MUST support receiving at least two audio m-lines
    - ▶ SRS supporting audio and video call, MUST support receiving at least four total m-lines in the SDP, two audio m-lines and two video m-lines
  - ▶ These requirements allow implementation of SRS that supports:
    - ▶ video only
    - ▶ recording only one direction of one stream in a CS
      - ▶ E.g. record security cameras that only send (not receive) video without any audio
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# Authentication and Authorization

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- ▶ Support for TLS mutual authentication required
    - ▶ Deployment decision whether to use it or not
  - ▶ If signaling between SRC and SRS is not direct (e.g. SIP proxy exists between SRC and SRS)
    - ▶ each hop is subject to the TLS mutual authentication constraint
    - ▶ transitive trust at each hop is utilized
  - ▶ SRC or SRS may use additional existing SIP mechanisms available, including but not limited to:
    - ▶ Digest Authentication [RFC3261]
    - ▶ Asserted Identity [RFC3325]
    - ▶ Connected Identity [RFC4916]
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# Media Protection

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- ▶ SRC and SRS MUST support the SDES key negotiation mechanism [RFC4568]
    - ▶ For cases in which DTLS-SRTP is used to encrypt a CS media stream, an SRC may use SRTP Encrypted Key Transport (EKT) [I-D.ietf-avt-srtp-ekt] in order to use SRTP-SDES in the RS without needing to re-encrypt the media
  - ▶ SRC MAY use same or different keys in RS than in CS
    - ▶ SRC may replicate RTP packets from CS to the SRS, using the same key
      - ▶ SRC MUST secure SDP containing keying material in RS with at least same level of security as in CS
    - ▶ SRCs that decrypt CS media stream and re-encrypt when sending to SRS
      - ▶ SHOULD use different key for RS media stream than that used for CS media stream to ensure it is not possible for someone who has key for CS media stream to access recorded data they are not authorized to access
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