DTLS-SRTP Key Transport

AVT Working Group

draft-wing-avt-dtls-srtp-key-transport-01

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Key Transport Overview

- IETF68 (Prague), RTPSEC BoF selected DTLS-SRTP as the preferred SRTP keying mechanism
- Only unicast, point-to-point was in scope

- DTLS-SRTP Key Transport allows efficient SRTP operation for:
  - Unicast audio and video conferencing
  - Multicast
  - Voicemail storage and retrieval

GDOI-SRTP and DTLS-SRTP-Key-Transport

- MSEC has Group SRTP Keying
  - draft-ietf-msec-gdoi-srtp

Differences

MSEC GDOI-SRTP

- Easy to remove group member
- Easy to change SRTP key

DTLS-SRTP-Key-Transport

- Extension to already-required SRTP keying mechanism

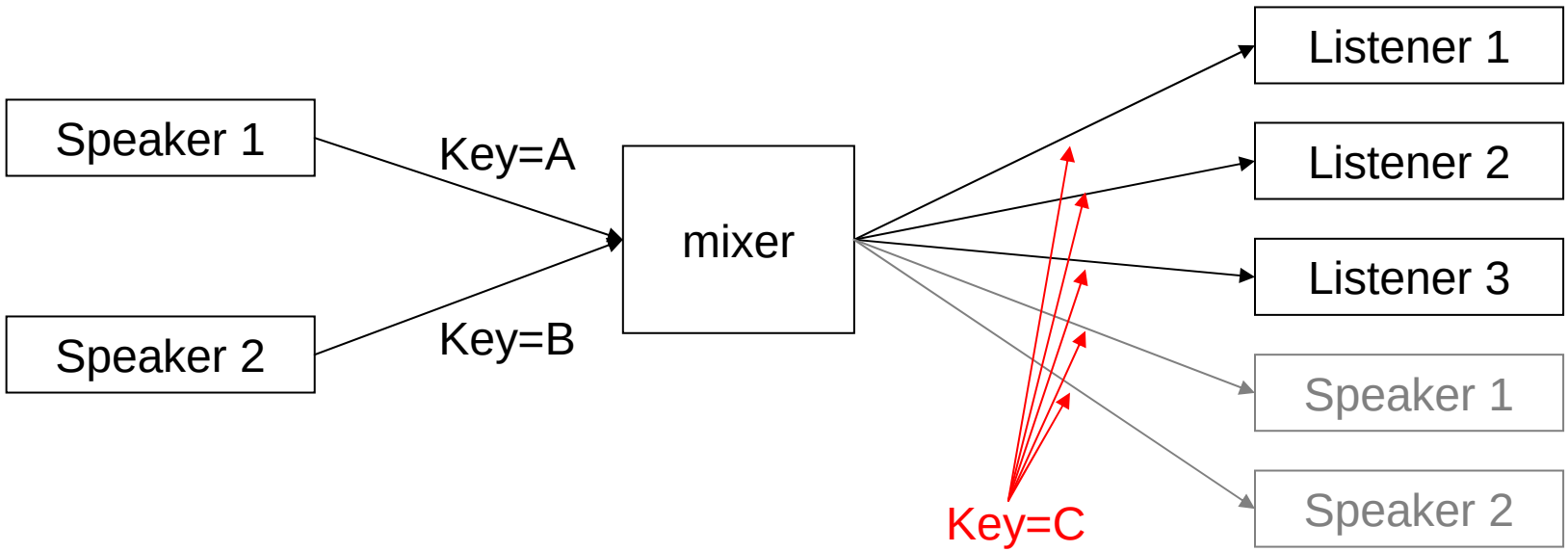
Changes in -01

- Incorporated feedback from Vancouver
  - Now better aligned with RTP Topologies (RFC5117)
  - Added voicemail storage/retrieval scenario
- New multicast scenario
  - Separate MSEC presentation
- Additional key transport messages
  - delete_srtp_key, your_new_srtp_key

Scenarios

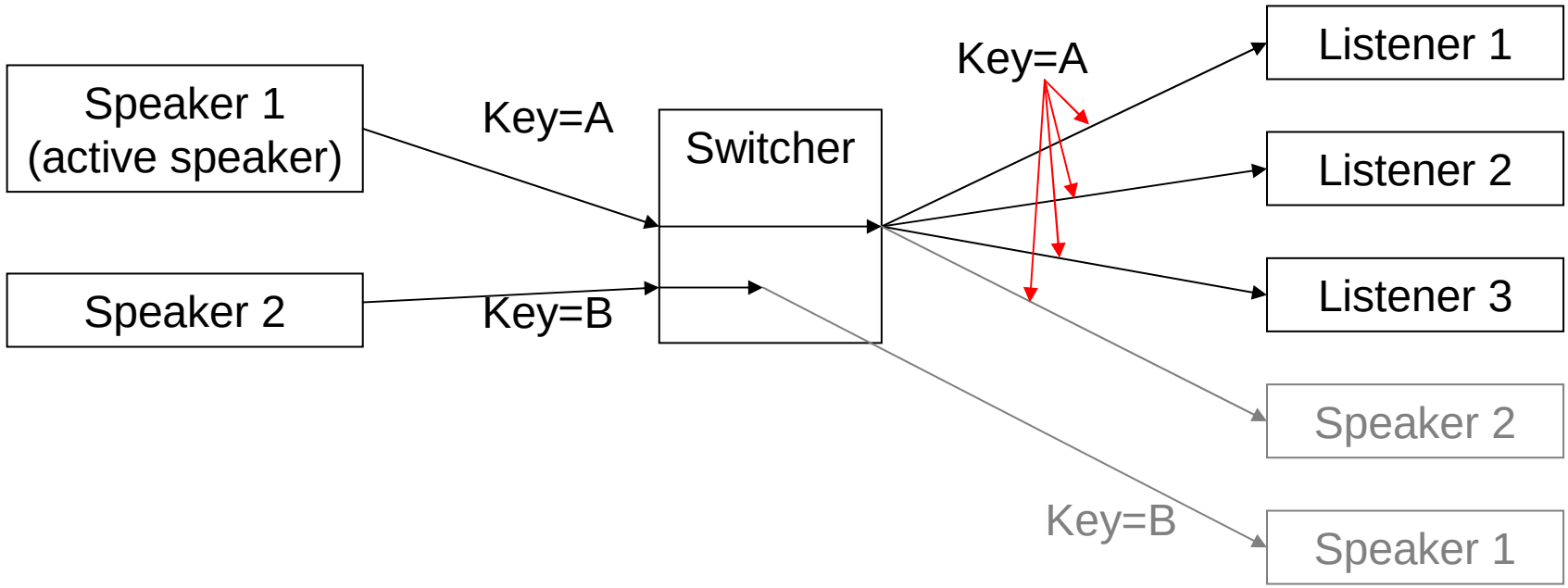
Point to Multipoint using RFC3550 Mixer Model

- Transport one SRTP key, inside of the per-listener DTLS session, to legitimate listeners



Point to Multipoint using Video Switching MCUs

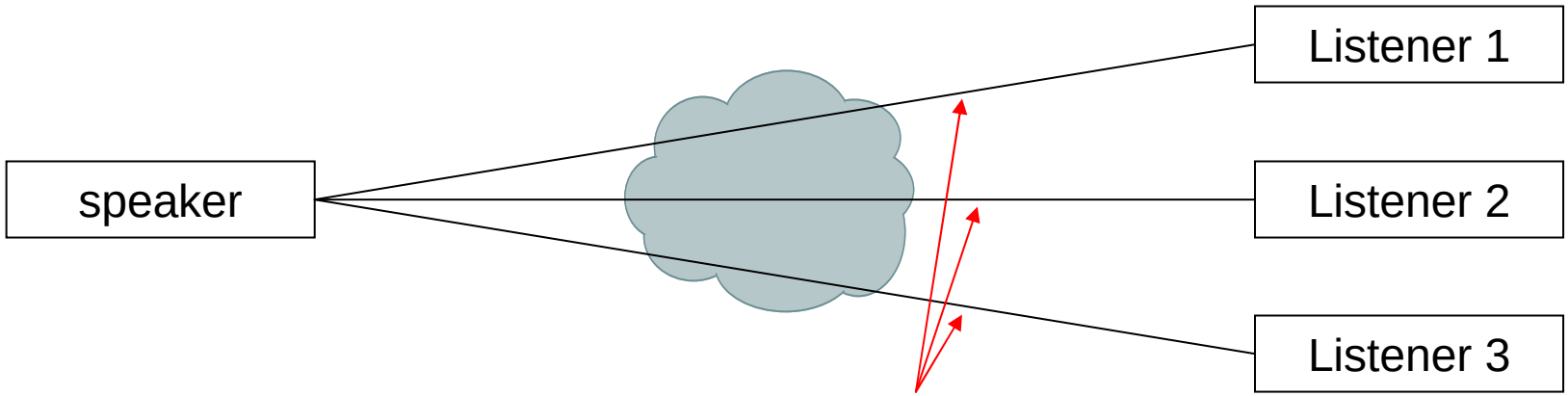
- Transport speaker's keys to listeners
- SRTP packets not encrypted/decrypted by switcher



Point to Multipoint using Multicast

New

1. Each listener establishes unicast DTLS-SRTP session with speaker
2. Speaker uses DTLS-SRTP Key Transport to tell every listener the same SRTP key
3. (not shown) SRTP packets multicasted

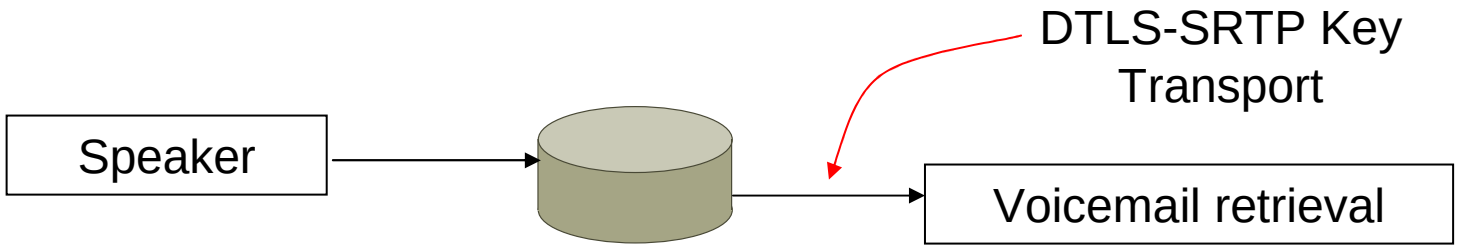


DTLS-SRTP, transport speaker's SRTP key=A

Voicemail Storage and Retrieval

New

1. SRTP, and its SRTP key, are saved to voicemail server
   - Speaker doesn't need DTLS-SRTP Key Transport
   - Voicemail server doesn't need to decrypt SRTP
2. Later, voicemail is retrieved using DTLS-SRTP
   - Voicemail server doesn't need to encrypt SRTP



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Questions

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