# Mapping RTP streams to CLUE media captures

## draft-even-clue-rtp-mapping-02

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Roni Even

I E T F

# Introduction

- CLUE framework defines Media Captures that provide information about the semantics of the streams like spatial relation

- SDP describe the characteristics of the streams and the connection information.

- Need to map between media captures and actual streams described using SDP media descriptors

- Try to avoid duplication of information between SDP and CLUE

# Assumptions

- Multipoint signaling is based on centralized conference server using one of the RFC5117 topolgies: Topo-Mixer, Topo-vide-switch-MCU or Topo-RTCP-Terminating-MCU

- The Media Captures add semantics to each RTP media stream.

  - There can be more than one semantic to an RTP stream e.g. same source is sending video of the whole room or third of the room. Same SSRC will be used for two media captures.

- Call setup can use one or more offer/answer exchanges

  - Discussed in transport draft

# Proposal

- SDP offer will include one m-line for all mutually exclusive media captures.

  - The encoder is the same for all mutually exclusive elements.

  - RTP multiplexing can be based on the Bundle draft

- Define an SDP captureID grouping (RFC5888) so each m-line in the group will have a unique ID to be used by a MC

  - Relation between the RTP streams using SDP (for lip synch, simulcast, …) can be done using CNAME or SRCNAME (draft-weterlund-avtext-rtcp-sdes-srcname).

- Define a CLUE MC attribute RTP-id that will use the same unique IDs

# Example Audio multiplexed three audio streams each goes with a different video capture. The captureID is used to map to a CLUE media capture

```
a=group:captureId 1 2 3 4
m=video 49170 RTP/AVP 96
a=rtpmap:96 H264/90000
a=fmtp:96 profile-level-id=42A01E; //Baseline profile,
Level 3.0
a=ssrc:956423924 cname:alice@foo.example.com
a=ssrc:956423924 srcname:left
mid=1
 m=video 49172 RTP/AVP 96
a=rtpmap:96 H264/90000
a=fmtp:96 profile-level-id=42A01E; //Baseline profile,
Level 3.0
a=ssrc:628424564 cname:alice@foo.example.com
a=ssrc:628424564 srcname:middle
mid=2
```

```
m=video 49174 RTP/AVP 96
a=rtpmap:96 H264/90000
a=fmtp:96 profile-level-id=42A01E; //Baseline profile,
Level 3.0
a=ssrc:456327628 cname:alice@foo.example.com
a=ssrc:456427628 srcname:right
mid=3
m=audio 49200 RTP/AVP 96
a=rtpmap:96 G719/48000
a=ssrc:521923924 cname:alice@foo.example.com
a=ssrc:521923924 srcname:left
a=ssrc:521924564 cname:alice@foo.example.com
a=ssrc:521924564 srcname:middle
a=ssrc:456323924 cname:alice@foo.example.com
a=ssrc:456423924 srcname:right
a=ssrc:836223924 cname:alice@foo.example.com
mid=4
```