Signaling media decoding dependency in Session Description Protocol – draft-schierl-mmusic-layered-codec-04

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Signaling: media stream dependency

• Motivation:
  RTP session multiplexing of layered / MDC media - Partitioning of layered / multi description coding (MDC) media bit-stream to different m-lines

• Problem:
  Session description with multiple m-lines of same type (e.g. video), how to treat them

• Guidance from AVT / MMUSIC chairs:
  Generic mechanism required for RTP Payload for H.264 - Scalable Video Coding (SVC)
Signaling mechanism *(stable since -00)*:

- Extended SDP grouping (RFC3388):
  - **DDP** – ‘Decoding Dependency’ group

- Media streams identified by $mid$

- New media level attribute:
  - $a=depend:TYPE *(mid)$

- **TYPE**:  
  - **lay** – layered decoding dependency
  - **mdc** – MDC dependency
SDP example with different payload types and RTP profiles:

```
a=group:DDP 1 2 3 4
m=video 40000 RTP/AVP 94
a=rtpmap:94 H264/90000
a=mid:1
m=video 40002 RTP/AVP 95
a=rtpmap:95 H264-SVC/90000
a=mid:2
a=depend:lay 1
m=video 40004 RTP/AVP 96
a=rtpmap:96 H264-SVC/90000
a=mid:3
a=depend:lay 1
m=video 40008 RTP/SAVP 100
k=uri:conditional-access-server.example.com
a=rtpmap:100 H264-SVC/90000
a=mid:4
a=depend:lay 1 3
```
draft version -02, -03 changes

• Relative to -02:
  – Added: Declarative and Offer/Answer usage section
  – Extended definition and use-case section
  – Removed SSRC multiplexing,
    also removed from RTP Payload for SVC

• Relative to -03:
  – Restricted to: grouping of m-lines of same media type
  – All related media streams must be signaled for m-lines
  – Improved Offer/Answer section
  – Editorial improvements
Traffic on mailing list

- Dave: 3GPP specific question
  - One repair stream for one specific media codec
  - Outcome: will be solved in 3GPP

- Roni: General framework for describing relation
  - Alternate offers, repair streams, decoding depend…
  - Our decision: This draft will focus on the case - relations of the same media type within the same media bit-stream only

- More discussion regarding SSRC mux before San Diego meeting
WG status

• Working group status?
  – Since basic mechanism (SDP dependency grouping + dependency attribute) is stable.