Signaling media decoding dependency in SDP -
draft-schierl-mmusic-layered-codec-00.txt

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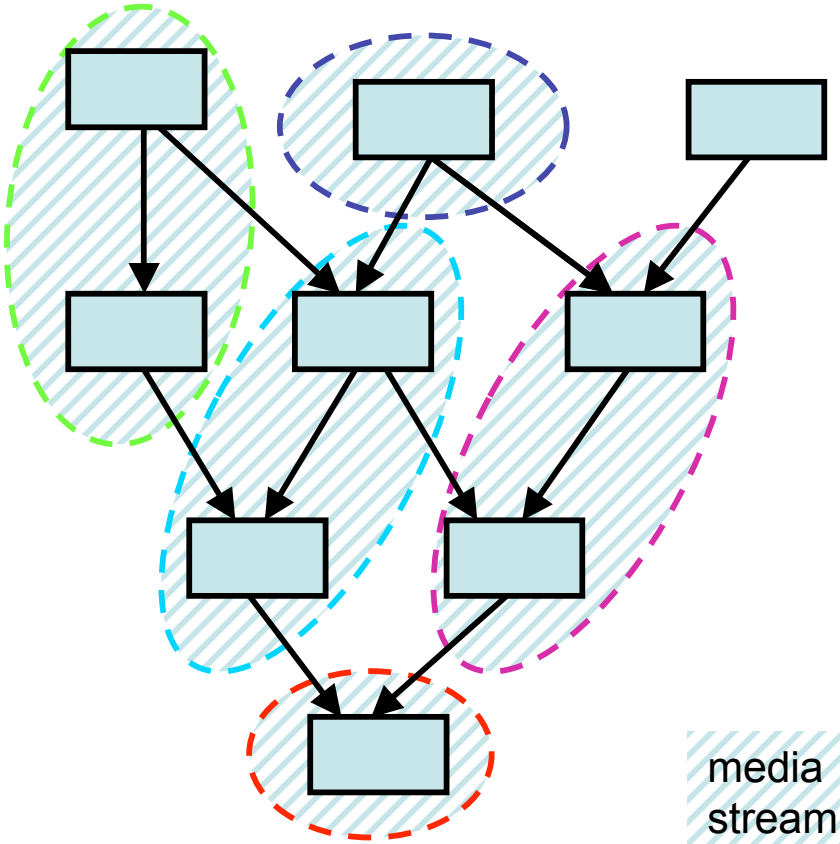
Motivation

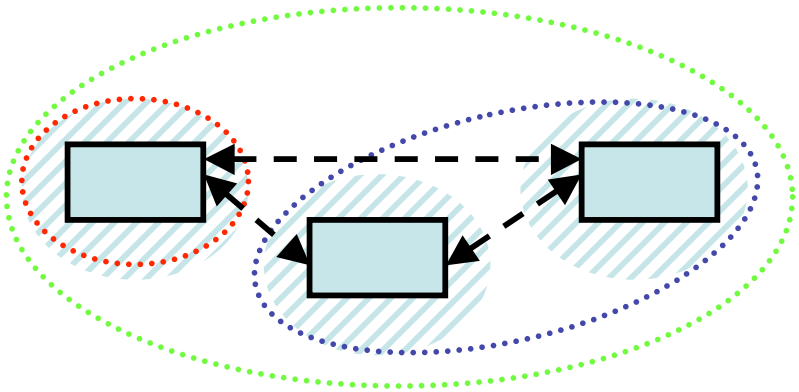
- What: Layered multicast / layered transmission
- SDP allows bunch of addresses for layered multicast, but
- SDP does not take dependencies and differences of transport streams into account (format specific parameter, payload type, media properties/capabilities)
- Guidance from mmusic chairs for generic signaling, during discussion on SVC payload format (draft-wenger-avt-rtp-svc-02.txt)
- Signaling should also work for e.g. MDC multi description coding (draft-vitali-ietf-avt-mdc-lc-00.txt)

Dependencies

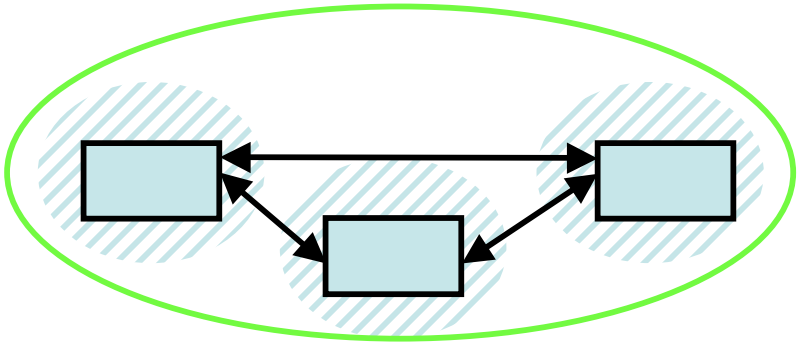
Hierarchical



Multi Description



Equal Dependency



media stream

Design Principles

- Basic idea:
  - Differentiation in transport by using additional media descriptions for layer(s)
  - Extending SDP grouping (3388) for dependency signaling
- Current assumption: Description of dependency on media stream level only
- Identification of layers in media stream currently not considered
- Assuming: No additional demultiplexing points within media stream, for layer identification

Mechanism

- New grouping type DDP Decoding Dependency
- New media attribute “a=depend:” followed by type of dependency: “lay”, “mdc” or “eql”
- Media streams which the stream depends on are signaled as following list of stream identifiers, e.g. hierarchical: “a=depend:lay 1 2”
- Further media attributes describing media stream properties/capabilities:

  “a=resolution” and “a=fgscapability”

avt related/open issues

- Draft affects signaling of payload formats for scalable media codecs
- Media streams of DDP group may be non-valid media streams excepting base-layer, if not combined
- At least receiver must understand grouping
- Signaling of media related information (like sprop-param. for SVC) for full layer combination (of all depending media streams) or for layer(s) contained in media stream only?
- fgscapability: Valid for all packets in the stream?
- media capabilities: What, if different layers do exit in media stream?

avt related/open issues (cont.)

- Description of layer(s) contained in media stream, makes sense only, if layer(s) can be identified on media level
- But: No further demultiplexing on media/transport level for layer identification
- One solution:
  Generic description of layer(s) in SDP, but mapping by: payload specific mechanism, does not work within security!
- Second solution:
  New demux points: Currently I believe NO, refer to avt mailing list traffic (Colin)
- Are there other options?

Thanks for your attention!