

Relation between CLUE signaling and SDP offer/ answer

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Introduction

- CLUE framework specify attributes needed to support multistream applications.
 - Content of the stream
 - Spatial information relation between streams.
 - Encoding constrains
- SDP provides attributes used to negotiate media streams capabilities.
- Try to avoid duplication of information between SDP and CLUE. The document discuss the relation between SDP and CLUE attributes.

Capture Attributes

- Provide static information on the media capture
 - Content based on the SDP content attribute (RFC4796). Both describe the sent stream. Need to keep consistency if described both in SDP and CLUE.
 - Initial SDP offered may include content attribute, the CLUE advertisement should have the same content description.
 - If there was no SDP content attribute in the first offer and CLUE is used there is no need to have it in a second offer.
 - Spatial information is only carried in CLUE no equivalent functionality in SDP.
 - A second offer/answer exchange may be needed if not multiplexing RTP streams in order to provide the transport connection.

Encoding parameters (1).

- Encoding parameters provide information about the ability of a CLUE provider to send media streams.
 - Include maxBandwidth, MaxH264mbps, maxWidth, maxHeight and maxFramerate.
 - maxH264mbps has similar parameter for H.264(RFC6184) but in RFC6184 it is receive capability. The
 - maxFramerate has a similar SDP parameter
 - maxBandwidth is similar to SDP “b” attribute but the “b=” is used for receive capability.
 - The maxWidth and maxHeight have similar attributes using RFC6236 “imageattr”

Encoding parameters (2).

- Relation between SDP and CLUE bandwidth
 - If the SDP provide higher BW value than CLUE, the actual BW limit will be the CLUE value (does this require a second offer answer?)
 - Offer/Answer may be used by the receiver to reduce the maximum BW making it lower than the CLUE value in which case the sender must adapt to the new value.
 - Since BW can be negotiated using both protocols the limitations must be based on all declared values.
 - There is an open issue if we need to have the SDP value not higher than the CLUE value for bandwidth management.

Encoding parameters (3).

- Relation between SDP and CLUE other parameters
 - maxH264Mbps and maxFrameRate has similar behavior to maxBandwidth.
 - CLUE maxWidth and maxHeight have similar functionality to the RFC6236 imageattr. The CLUE value reflects maximum provider capabilities and the consumer selects. The receiver can use imageattr to request a specific mode for a stream.
 - Both can be used – do we need to recommend using one and not the other?

Observations.

- Except for maxWidth and maxHeight there is not concern about using both SDP and CLUE as long as CLUE reflects sender capabilities and SDP the receiver's.
- Changing SDP values should not require a new advertisement and same for changing CLUE values since these are maximum value and the actual limitation will be based on both values.
- Using RFC6236 may not work when dynamic mapping between RTP stream and Media captures is used.