

Strawman proposal for expressing encoding limits in CLUE

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Offer SDP and Advertisement

Offer SDP

```
m=video ...  
... H264@720p30  
a=label:A  
a=sendrecv  
m=video ...  
... H264@720p30  
a=label:B  
a=sendrecv  
m=video ...  
... H264@720p30  
a=label:C  
a=sendrecv
```

CLUE ADVERTISEMENT

Capture Scene 1:

Capture 1: Left (Encoding Group 1)

Capture 2: Center (Encoding Group 1)

Capture 3: Right (Encoding Group 1)

Capture 4: Switched

Capture Scene Entry 1: 1,2,3

Capture Scene Entry 2: 4

Simultaneous Sets: 1,2,3,4

Encoding Group 1:

Encoding Limits

Aim

- Encoding limits are only guides to allow the receiver to make a sensible decision about subdivision of resources
- Uses simple, codec-independent values
- Defines supported codecs, allows different limits for different codecs

Proposal

Video encoding:

- 1 of encodingId (string)

- 1 of encodingLabel (string)

- 1+ of encodingLimits:

 - 1+ of codecType (string)

 - 0-1 of maxBandwidth (integer)

 - 0-1 of maxWidth (integer)

 - 0-1 of maxHeight (integer)

 - 0-1 of maxFramerate (integer)

Example #1

```
<encoding id="1" type="video">  
  <label>ENC1</label>  
  <limits>  
    <codec>H264/90000</codec>  
    <codec>VP8/90000</codec>  
    <maxBandwidth>4000000</maxBandwidth>  
    <maxWidth>1920</maxWidth>  
    <maxHeight>1088</maxHeight>  
    <maxFramerate>30.00</maxFrameRate>  
  </limits>  
</encoding>
```

Example #1

```
<encoding id="1" type="video">  
  <label>ENC1</label>  
  <limits>  
    <codec>H264/90000</codec>  
    <codec>VP8/90000</codec>  
    <maxBandwidth>4000000</maxBandwidth>  
    <maxWidth>1920</maxWidth>  
    <maxHeight>1088</maxHeight>  
    <maxFramerate>30.00</maxFrameRate>  
  </limits>  
</encoding>
```

```
m=video ...  
...  
a=label:ENC1  
a=sendrecv
```

Example #1

```
<encoding id="1" type="video">  
  <label>ENC1</label>  
  <limits>  
    <codec>H264/90000</codec>  
    <codec>VP8/90000</codec>  
    <maxBandwidth>4000000</maxBandwidth>  
    <maxWidth>1920</maxWidth>  
    <maxHeight>1088</maxHeight>  
    <maxFramerate>30.00</maxFrameRate>  
  </limits>  
</encoding>
```

```
m=video ...  
...  
a=label:ENC1  
a=sendrecv
```

Example #1

```
<encoding id="1" type="video">  
  <label>ENC1</label>  
  <limits>  
    <codec>H264/90000</codec>  
    <codec>VP8/90000</codec>  
    <maxBandwidth>4000000</maxBandwidth>  
    <maxWidth>1920</maxWidth>  
    <maxHeight>1088</maxHeight>  
    <maxFramerate>30.00</maxFrameRate>  
  </limits>  
</encoding>
```

```
m=video ...  
...  
a=label:ENC1  
a=sendrecv
```


Example #2

```
<encoding id="1" type="video">  
  <label>ENC1</label>  
  <limits>  
    <codec>H264/90000</codec>  
    <codec>VP8/90000</codec>  
    <maxWidth>1920</maxWidth>  
    <maxHeight>1088</maxHeight>  
    <maxFramerate>30.00</maxFrameRate>  
  </limits>  
  <limits>  
    <codec>H265/90000</codec>  
    <maxWidth>1280</maxWidth>  
    <maxHeight>720</maxHeight>  
    <maxFramerate>30.00</maxFrameRate>  
  </limist>  
</encoding>
```

Determination

- Do we believe that this simple syntax (or something like it) is sufficient to allow the media consumer to sensibly allocate its decode resources?
- Do we believe the benefits of this method (fewer m-lines, fewer O/As, less need to precommit resources) justify doing this in CLUE rather than SDP?