

Negotiation of Generic Image Attributes in SDP

draft-johansson-mmusic-image-attributes-02

- Updates since -01
 - Requirement spec. added
 - Most known issues taken into consideration
 - Use of PAR/SAR aligned with established conventions
 - Support for asymmetry (send and recv direction)

■ Requirements:

- REQ-1: Support the offer of a specific image size on the receiver display
- REQ-2: Support asymmetric setups
- REQ-3: Interoperate with codec specific parameters such as sprop-parameter-sets in H.264 or config in MPEG4
- REQ-4: Make the attribute generic with as little codec specific details/tricks as possible
- OPT-1: Make it possible to use attribute for other purposes than video

Objective of this draft

- Make it possible to negotiate a desired image size on the receiver display
 - Less need to allocate abundant memory
 - Reduce/remove the need to rescale the image
 - Optimum quality for given bitrate / image size can be achieved
 - Less image distortion (e.g blurring)
- Generic, should (preferably) not be codec dependent



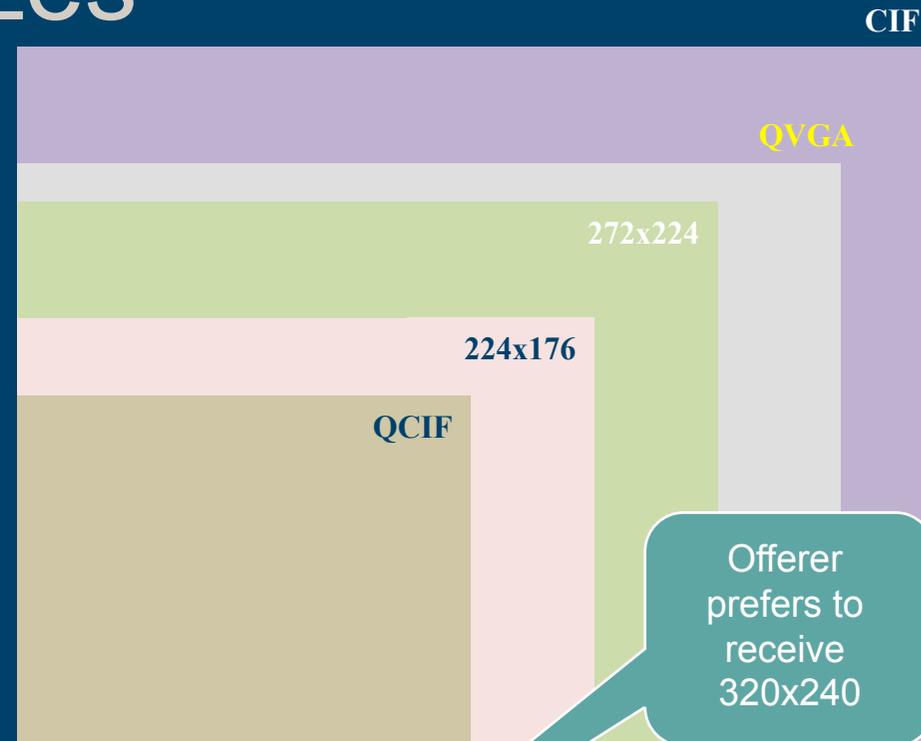
http://www.3gpp.org/ftp/tsg_sa/WG4_CODEC/TSGS4_47/Docs/S4-080009.zip

Examples

A few examples how the attribute is used

Different image sizes

- Offer the image sizes in the figure
 - Equal preference unless specified by q parameter.
- Answerer picks the desired image size



Offer:

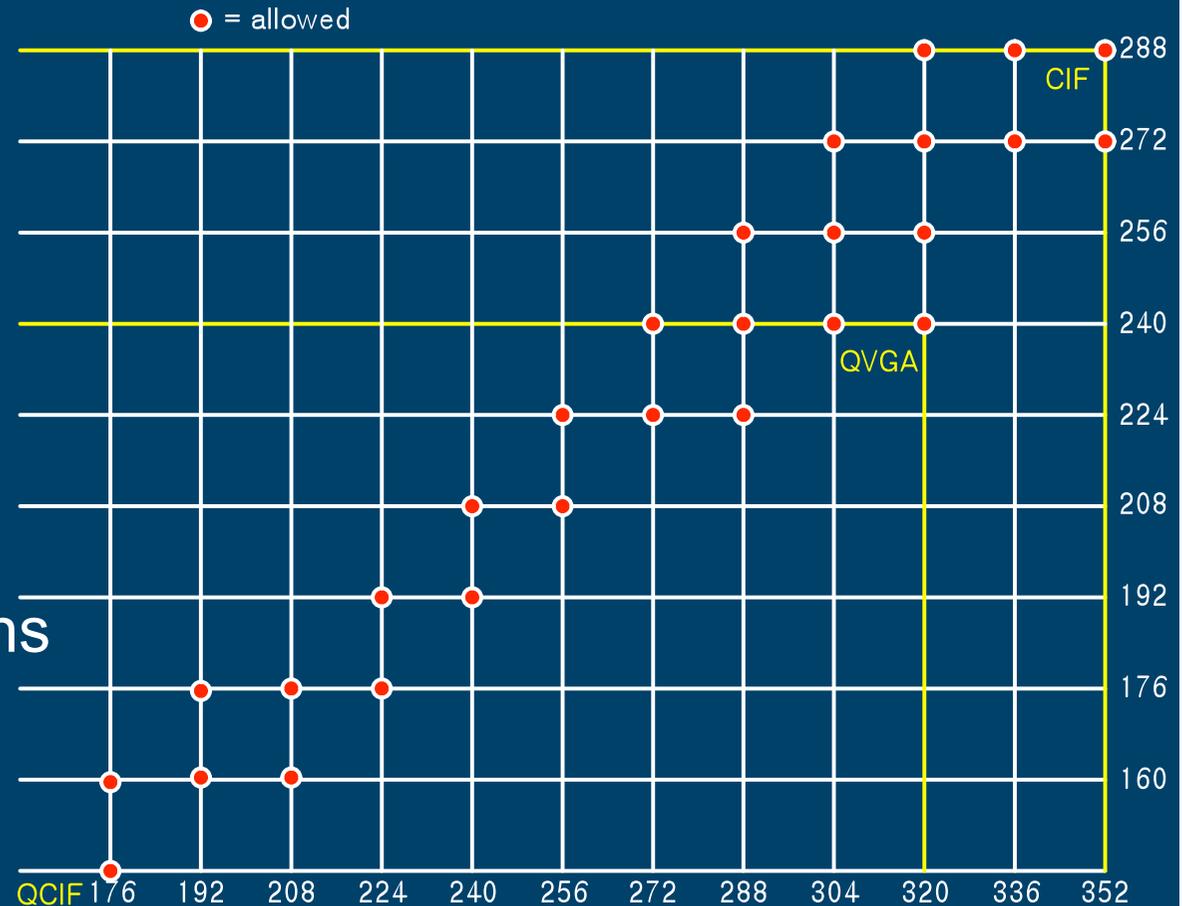
```
a=imageattr:97 \  
send [x=352,y=288] [x=320,y=240] [x=272,y=224] \  
    [x=224,y=176] [x=176,y=144] \  
recv [x=352,y=288] [x=320,y=240,q=0.6] [x=272,y=224] \  
    [x=224,y=176] [x=176,y=144]
```

Answer:

```
a=imageattr:97 recv [x=272,y=224] send [x=320,y=240,q=0.6]
```

Different image sizes with supported PAR

- Support **ranges** with limitation in possible picture aspect ratios (**PAR**)
- Eliminates problem with odd combinations



Offer:

```
a=imageattr:97 \  
  send [par=[1.1-1.3],x=[176:16:352],y=[144:16:288]] \  
  recv [x=352,y=288]
```

SAR

- **SAR** = Sample Aspect Ratio
 - Specifies the pixel dx/dy ratio for the range on x and y values
 - SAR = 1.0 by default (square pixels)

```
a=imageattr:97 \  
  send [sar=[0.91,1.0,1.09,1.45] x=720,y=576] \  
  recv *
```

Working group item ?

- Authors would like to propose this to become a working group item
 - The current formulation already proposed to be used in 3GPP SA4.

ftp://ftp.3gpp.org/TSG_SA/WG4_CODEC/Ad-hoc_MTSI/Docs/S4-AHM104.zip