

SDP Attributes for Video Media Control

draft-even-mmusic-video-media-control-00.txt

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Introduction

- A number of crucial video attributes for dealing with multimedia calls are missing from the SDP today
- The new proposed attributes are
 - Frame Rate and Resolution Dependency
 - Clean Switch of Video Source

Frame Rate and Resolution

- The need for the attribute itself was not disputed
- Syntax mistakes were found and will be corrected
 - Resolution can be bigger than 3 digits
 - Frame rate is fractional – ABNF has a mistake

Independent Pictures and Delta Pictures

- Video is composed from independent pictures (Intra) and predicted pictures (Inter)
 - Predicted pictures require a previous picture *from the same source*
- Hence, the receiver needs an Intra picture in order to start presenting a new stream
- In digital TV video streams frequent Intra pictures
 - Allows channel switching
- In Videoconferencing, Intra is used only on demand
 - Otherwise increased delay & lower frame rate
- Need to communicate the Demand somehow

Picture Update and Picture Freeze

- A media processor/mixer needs to be able to *request* an Intra Picture
 - Switching to a different video source
 - Picking a new video from a multicast channel
- Also needed: FREEZE Request
 - To avoid displaying garbage pictures until the new Intra picture is successfully decoded

Freeze Request is uncontroversial

- Discussions on the mailing list:
- Picture freeze attribute is OK since it changes the stream state

How to communicate Intra Picture Request: Options 1/2

- Conference package
 - NO: When a user is notified that he is seen will send a new picture – problem: what if already being seen by other, then he will not be notified
- RTCP
 - NO: unreliable, timing issues, gateway/MCU decomposition problem
- RTP, in a channel in reverse direction:
 - NO: may not exist, using reverse media channel for signaling is evil
- INFO
 - NO: Info is evil :-)

How to communicate Intra Picture Request: Options 2/2

- SDP Attribute “INTRA-only”, “INTRA+INTER”
 - NO: bad real-time characteristics, bad user experience
- SDP attribute “new stream”
 - Solves the problem, BUT can this be considered as a stream state change?
 - Argument: yes. It causes the encoder to restart encoding and stop using previous information as reference. Undoubtedly a new state.
- Any other ideas? Input solicited

How to communicate Intra Picture Request: Solution

- *In the absence* of any better solution we argue:
- If Intra Request doesn't gain acceptance in SDP then we cannot support video for conversational services in the near term
- Conclusion: Let's be pragmatic, and add a "New Stream" attribute

Next Step

Whatever the outcome of the Intra Request discussion may be...

... please consider making draft-even-mmusic-video-media-control-00.txt an MMUSIC work item

... and please help finding a clean solution *quickly*