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CODING OF MOVING PICTURES AND AUDIO**

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Title **Fixes to ISOBMFF conformance**
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1 Introduction

This contribution identifies defects in the ISOBMFF conformance test suite and proposes fixes whenever possible.

2 18_pssh.mp4

The conformance file 18_pssh.mp4 happens to be wrong, the ‘senc’ box being stored in the sample table instead of the trak (file is not fragmented). This contribution includes a proposed fixed version.

3 sg-tl-st.mp4

The file sg-tl-st.mp4 does not seem to follow the standard. The following box layout is found for subtracks:

```
<UserDataBox Size="132" Type="udta" Specification="p12" Container="moov trak moof traf" >  
<SubTrackBox Size="58" Type="strk" Specification="p12" Container="udta" >  
<SubTrackInformationBox Size="28" Type="stri" Specification="p12" Container="strk"  
Version="0" Flags="0x0" switch_group="1" alternate_group="1" sub_track_id="1">  
<SubTrackInformationAttribute value="bitr"/>  
<SubTrackInformationAttribute value="frar"/>  
</SubTrackInformationBox>  
<SubTrackSampleGroupBox Size="22" Type="stsg" Specification="p12" Container="strd"  
Version="0" Flags="0x0" grouping_type="tele">  
<SubTrackSampleGroupBoxEntry group_description_index="1"/>  
</SubTrackSampleGroupBox>  
</SubTrackBox>  
</UserDataBox>
```

Box "stsg" is invalid in container strk

It seems no strd box is present in the file.

4 subs_slice_hvc1.mp4 and subs_tile_hvc1.mp4

The SubSampleInformationBox in this files is present in the track sampleTable but the first entry has a sample delta. This should be 0 as per SubSampleInformation spec.

5 rtp/rtcp reception hint tracks

It looks like the file rtp_rtcp_reception_hint_tracks.mp4 is corrupted. The hint samples in the rrtcp tracks give the following warnings and errors:

First DTE :

```
hint packet constructor with bytesperblock 256, not 1  
hint packet constructor with samplesperblock 256, not 1
```

Second DTE :

```
invalid DTE code 217 in hint sample 1 of trackID 2
```

We welcome further analysis from the experts on that file.

6 Conformance Questions

6.1 Boxes and Containers

It is not clear in the spec if a file having a box positioned outside of its container (eg, edts box in a stsd box, as in the case in C029.heic, C030.heic, C036.heic, C037.heic and C038.heic) is an error or not. The specification should be clarified, and we strongly suggest enforcing the parent of boxes in the specification (eg, a box shall only be present in one of its allowed container).

6.2 Timescales

The FEC files in the conformance have 0 media timescale (in mdhd). Although this is strange since it is a denominator, it is not problematic for FEC since there is no timing in FEC hint tracks. Is this allowed ?

Moreover, the stbl for this file doesn't have any stts box, which is however mandatory, but not useful for this file. Shouldn't this file be considered non conformant ?