

# VVC/H.266 RTP Payload Format Update

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# IETF 106/107/108 Recap

- H.266/VVC FDIS on 07/06/2020 and has been consented and published by ITU; the approval and publication processes in ISO are ongoing
- H.266/VVC RTP payload format design approach: (Agreed on IETF 106):
  - Only support SRST due to limited or nonexistent implementation for MRST/MRMT mode
  - Removed payload content information (PACI) packets
  - Removed DOND-based signaling, which supports interleaved packetization of NAL units within an access unit
  - Added FM section both short and long header extension

# Update summary since IETF 108

- Current WG draft version <https://tools.ietf.org/html/draft-ietf-avtcore-rtp-vvc-05>
- Add co-authorship: Ye-Kui Wang [Welcome!]
- VVC overview updates
- Added specification of SDP parameters
- Received Comments w.r.t:
  - GDR and CRA allowed as responses to FIR
  - GDR support in FM

# VVC overview update

- Mostly on format and terminology update (*Thanks Ye-Kui for those detailed comments*)
- Substantial update on Sec 1.1.3:
  - Change from “Parallel processing support” to “High-level Picture Partitioning”)
    - Tiles and WPP
    - Slices
    - Subpictures

# SDP optional parameters (review needed!)

- [draft-ietf-avtcore-rtp-vvc-05#section-7.2.1](#) now includes 15 pages of SDP payload parameters (many copy-pasted from the HEVC payload format)
- The draft also contains many editors notes suggesting/requesting review on whether certain parameters are acceptable.
- No detailed review has taken place so far. We need to get active here and come to conclusions!
- Proposed way forward once draft submission is open again:
  - Authors propose, on mailing list, our suggested way forward for each parameter or group of related parameters
  - Two-week comment period for each topic.
  - If no comments are received, the suggestions will be implemented, and a new draft will be submitted with changes implemented and editor's notes removed.
  - Review of all parameters to be through by the end of the year.
  - (Comments are obviously welcome any time, but particularly welcome during above comment periods).
- Is this agreeable?

# SDP Offer/Answer section, and IANA Considerations

- The offer/answer and IANA consideration sections are currently placeholders
- Authors propose to start with the relevant sections from the HEVC payload, with an initial alignment with the VVC spec based on author's understanding.
- Then follow the same “forced review” process as suggested for the payload parameters
- Is that agreeable?

# Is there any interest in GDR in an RTP payload format?

- FIR Discussion :
  - GDR allowed as an additional FIR response.
    - Martin suggested that a new request message may be added for GDR, if it is not going to be add in the FIR
  - Do we have an agreement not allowing CRA as response to FIR?
- Clarification needed for FrameMarking draft w.r.t GDR signaling:
  - The 'I' bit: is it for pictures that are intra-coded (as in the current semantics), which includes IRAP (IDR/CAR/BLA) and non-IRAP intra pictures, or is it intended for indicating a random access point (i.e., a refresh point)? (Please see Ye-Kui's text suggestion)
    - Note that the current specifications of the 'I' bit in the two drafts are contradicting with each other.
    - This question needs to be clarified before trying to answer the following question.
  - Do we really want FM in VVC draft? ( we know that we have already made an agreement back in 106)
    - **If Yes:**
      - **Option 1)** We explicitly saying that the 'I'=0 when it is a GDR (that basically said GDR is **NOT** supported in FM) No changes for FM.
      - **Option 2)** FM needs to clarify (as Mo suggested):
        - i) adding addition bit(s) to support GDR signaling with specific recovery\_poc\_cnt = 0 in mind
        - ii) a more general approach, which may require a substantial efforts
    - **If No:** (a way out for us) we could completely remove the FM section, but still need to address if allowing GDR is necessary as response to FIR

# Questions still need response from WG

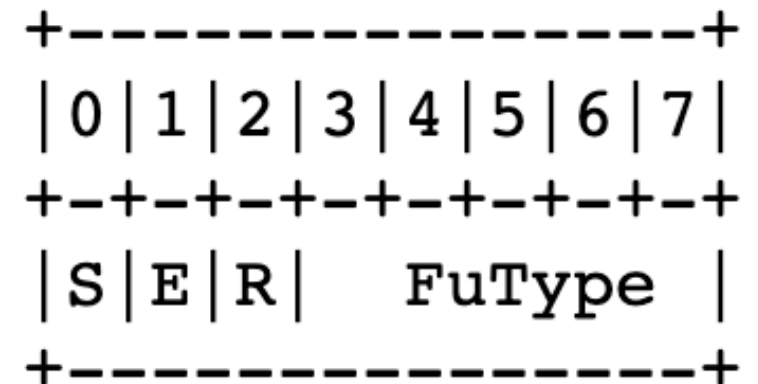
- Do we need to support all the FB messages for VVC/H.266?
  - Our preference: remove SLI and RPSI, due to limited/nonexistent implementation.
  - Will implement unless we hear otherwise

- Fragmentation Unit Header:

- Suggestion for a good use of the “Reserved” ‘R’ bit?

Possible options:

- Ex: use it for assisting picture boundary detection
    - Others...?





Thanks