EVC Payload Format

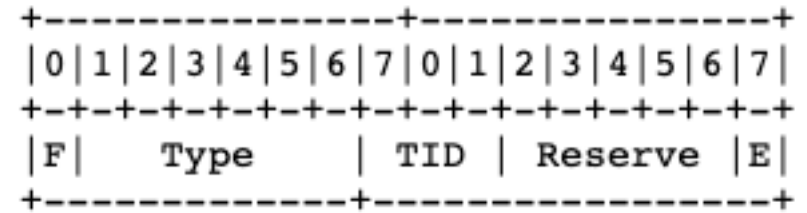Shuai Zhao and Stephan Wenger, Tencent

Introduction

- Another Hybrid Video Codec, like H.264, H.265, H.266
- Standardized as MPEG-5 Part 1, FDIS ballot 04/30/2020
- Compared with H.265/H.266, is expected to have better licensing situation
  - Only five contributing organizations
  - Attempt to create royalty-free baseline based on 20+ year old tech and/or agreement of contributors
- Two profiles:
  - base (intended to be free of charge)
  - Main (may require payment of royalties)
- Two-byte NAL unit design, similar as H.265/H.266
- Native support temporal scalability, no spatial/SNR scalability
- Parameter Set concept: SPS, PPS, APS

EVC Payload Format Design Principles

- Inherited structure from HEVC/VVC

- Payload structure design mostly follows VVC design:
  - no support for PAyload Content Information (PACI) packets akin RFC 7798
  - no support for MRST, MRMT, only SRST
  - no DOND-based signaling

What has been implemented in -02

- Coding tool section
- NAL unit header Description
- RTP Payload structure
  - Single
  - AP
  - FU

```
+---------------+---------------+
|0|1|2|3|4|5|6|7|0|1|2|3|4|5|6|7|
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|F|    Type     | TID | Reserve |E|
+-------------+---------------+
```

The Structure of the EVC NAL Unit Header

others

- Frame Marking support? Do we need it?
- RTCP FB message mode support.
- WG adoption?
- Target milestone: early 2021?