1 Introduction

This proposal presents a new ENCODER tool which enables selected intra-period coding in 3D-HTM. No normative changes are necessary for this tool and only small encoder changes are required. Some interesting benefits can be acquired for the group, like parallel intra-periods coding or fast debugging functionality.

2 Idea description

Encoding of selected intra-period requires intra-periods to be independent. In 3D-HTM encoding of an intra-period is in general independent with two exceptions:

First one is that CDR frame opening subsequent intra-period also has to be encoded, as it can be a reference frame for the selected intra-period frames. This CDR frame is not written to the output bitstream. This additional CDR frame coding has no impact on the encoding efficiency and can be implemented transparently.

Second exception and the main problem is context derivation of "cabac_init_flag"[1] in the slice header. This is further described in Section 3.
3 Context derivation of "cabac_init_flag" in 3D-HTM versus 2D generic HEVC.

In HEVC context of "cabac_init_flag" is cleared in the beginning of each intra-period (with I frame) and thus there is no problem with intra-periods dependences (Fig.1).

![Fig1. HEVC coding order and "cabac_init_flag" context transition schematic.](image)

In 3D-HTM the context of the flag is also cleared with I frame, but unfortunately in the dependent views there are no I frames. Therefore, in case of dependent views this flag is continuously derived across intra-period boundaries (independently in each view) as showed in Fig.2.

![Fig2. 3D-HTM coding order and "cabac_init_flag" context transition schematic.](image)
Clearing of context of this flag in each dependent views also, would have minor impact of encoding efficiency (Fig.3).

With this change selected intra-period coding requirements of intra-periods independency will be fulfilled.

4 Summary and recommendations.

Proposed tool involves no normative changes. Selected intra-period coding eases debugging and parallel computing. We recommend to adopt independent and selected intra-period coding in 3D-HTM.

5 Patent rights declaration(s)

Poznan University of Technology does not have current or pending patent rights relating to the technology described in this contribution.

6 References