**INTERNATIONAL ORGANISATION FOR STANDARDISATION**

**ORGANISATION INTERNATIONALE DE NORMALISATION**

**ISO/IEC JTC1/SC29/WG11**

**CODING OF MOVING PICTURES AND AUDIO**

**ISO/IEC JTC1/SC29/WG11 MPEG2020/m54629**

**June 2020, Online**

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| **Source** | **Panasonic corporation** |
| **Status** | **Input contribution** |
| **Title** | **[G-PCC] Cross check report for CE13.36 on cleaning G-PCC** |
| **Author** | Loi Keng Liang |

# Abstract

This contribution is a cross check report on cleaning G-PCC in CE13.36. The target of CE13.36 is to investigate changes to the geometry tree structure that simplify the G-PCC design both technically and conceptually. The experimental results on Predictive Geometry Coding were matched with the ones provided by proponent.

# Experimental Condition

The purpose of CE13.36 [1] is to study the impact on geometry tree structure that simplify the G-PCC design both technically and conceptually which was proposed in [2]. The study evaluates the proposed geometry tree structure to

• verify that the proposal is still applicable to the current v10 design,

• examine any coding efficiency impact arising from the proposal

• evaluate the benefits and detriments of the proposal.

There were 2 experiments conducted. The first experiment restructures the node syntax while aiming to reproduce the v10 results while the second experiment updates contextualisation to use

neighbour relationships that are not possible prior to the restructuring. Attribute coding was disabled for both experiments.

This contribution reports the results of cleaning G-PCC through test conducted using the software provided by the proponent from the following mpeg CE repository branches:

<mpeg129/ce13.36/restructured-octree-node> [3]

<mpeg129/ce13.36/restructured-octree-node+parentctx> [4]

The computing platform is Linux 64bits and the executables were compiled on 64-bit Linux with gcc 5.4.2.

# Results

It was confirmed that the results were exactly matched with the ones provided by the proponent. Detailed results are included in the attached excel sheet.

# Conclusion

The results of Predictive Geometry Coding in CE13.36 were confirmed.

# References

1. “G-PCC CE13.36: on cleaning G-PCC” ISO/IEC JTC1/SC29 WG11 Doc. N19342, Online, April 2020
2. D. Flynn and K. Mammou, “G-PCC: A simplified octree node structure,” ISO/IEC JTC1/SC29/WG11, 130th meeting, Alpbach, Tech. Rep. m53677, Apr. 2020
3. http://mpegx.int-evry.fr/software/MPEG/PCC/CE/mpeg-pcc-tmc13/tree/mpeg130/ce13.36/restructured-octree-node
4. http://mpegx.int-evry.fr/software/MPEG/PCC/CE/mpeg-pcc-tmc13/tree/mpeg130/ce13.36/restructured-octree-node+parentctx