Joint Collaborative Team on 3D Video Coding Extensions of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11
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Title:	**JCT-3V AHG Report: Mixed Resolution Coding (AHG13)**		
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Abstract

This document reports on the work of the JCT-VC *ad hoc* group on Mixed Resolution Coding (AHG13) between the 6th JCT-3V meeting in Geneva (25 October – 1 November, 2013) and the 7th JCT-3V meeting in San Jose (11 – 17 January, 2014).

1 Mandates

- Provide software that allows to encode and decode texture and depth with different resolution in 3D-HEVC

The email reflector for AHG11 is jct-3v@lists.rwth-aachen.de.

2 Related contribution

The following contributions are related to AHG14:

- JCT3V-G0151: Shinya Shimizu, Shiori Sugimoto, "AHG13: Results with quarter resolution depth map coding"

3 Report

It was reported that a reduced resolution depth map coding in the context of 3D-HEVC gave no coding benefit. However, such coding scheme achieves low complexity decoding in terms of the number of operation and memory usage, and decoder throughput.

There are many efforts in order to migrate JCT3V-D0215 and JCT3V-D0216, which are based on HTMv6.x, to the latest version of HTM. Due to the limited time after the release of HTMv9.x, the migration has not been finished yet. The software used in JCT3V-G0151 supports only VSO; no 3D-HEVC coding tool is supported with the reduced resolution depth map coding. Simulation result shows about 3.38% bitrate reduction and 6.22% bitrate increase for coded and synthesized views, respectively, with saving about 30% decoder runtime.

4 Recommendations

The AHG on Mixed Resolution Coding recommends to:

- Review the related input contribution
- Decide whether to support mixed resolution coding in MV-HEVC and 3D-HEVC