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| **ITU – Telecommunications Standardization Sector**  STUDY GROUP 16 Question 6  **Video Coding Experts Group (VCEG)**  56th Meeting: 17–21 July 2017, Turin, IT | Document VCEG-BD02-v1 |

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| Question: | Q.6/SG16 (VCEG) | | |
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| Title: | **Report on** **Joint Ad Hoc Group on exploration of joint activities between SG16/Q6 and SC29/WG1** | | |
| Purpose: | AHG report | | |

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**Abstract**

This document reports on the progress of the Joint Ad Hoc Group on exploration of joint activities between SG16/Q6 and SC29/WG1.

1. **AHG overview**

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| **Area of focus** | Requirements |
| **Name** | Joint Ad Hoc Group on exploration of joint activities between SG16/Q6 and SC29/WG1 |
| **Chairs** | Fernando Pereira (fp at lx.it.pt)  Justin Ridge (justin.ridge at nokia.com) |
| **Mandates/ Objectives** | * Continue the survey of areas of potential collaboration between ISO/IEC JTC1/SC29/WG1 and ITU-T SG16/Q6 * Identify a small number specific topics of greatest potential for such future collaboration * Prepare and submit a report on the above for review at the collocated meeting in July 2017. |
| **Deliverables** | * List of areas of common interest * Roadmap for collaboration |
| **Meetings** | * Potential online meeting when needed |
| **How to join** | Messages should be cross posted to the following two reflectors:  [jpeg-sg16q6-wg1@listserv.uni-stuttgart.de](mailto:jpeg-sg16q6-wg1@listserv.uni-stuttgart.de)  [vceg-experts@yahoogroups.com](mailto:vceg-experts@yahoogroups.com)  To register to these reflectors please do the following:  For [jpeg-sg16q6-wg1@listserv.uni-stuttgart.de](mailto:jpeg-sg16q6-wg1@listserv.uni-stuttgart.de)  In order to subscribe to [jpeg-sg16q6-wg1@listserv.uni-stuttgart.de](mailto:jpeg-sg16q6-wg1@listserv.uni-stuttgart.de), send an (empty) email to jpeg-sg16q16-wg1-join@listserv.uni-stuttgart.de and follow the steps of the e-mail being received. Also send an email to [richter@rus.uni-stuttgart.de](mailto:richter@rus.uni-stuttgart.de).  For [vceg-experts@yahoogroups.com](mailto:vceg-experts@yahoogroups.com) visit http://groups.yahoo.com and use the system to look for a group called “vceg-experts”. |

1. **AHG activity**

The main objective of this AhG is clearly to identify common interests between SG16/Q6 and SC29/WG1 that may lead to joint activities, standards/recommendations, etc.

Based on discussions among the AhG members, the following priority plan was defined:

1. Collaboration on compression tools and other metadata that are used in respective standards/recommendations; these are for instance intra coding tools, various metadata on the context and content, etc.
2. Collaboration on non-normative tools, best practices and everything that is not needed for standardization but needed for development of standards; examples include meaningful data sets, evaluation metrics and methodologies, rendering approaches, etc.
3. Collaboration on complete compression systems, including file formats, as a joint specifications.

To better understand the current situation, it was decided to:

1. Identify and characterize the current and emerging VCEG and JPEG activities
2. For each activity, identify potential common
   1. Application scenarios
   2. Requirements
   3. Coding tools
   4. Metadata
   5. Objective metrics
   6. Subjective assessment protocols

Understanding the current situation has involved presentations of the current JPEG activities to VCEG by Touradj Ebrahimi during Geneva meeting, January 2017, and of the current VCEG activities to JPEG by Gary Sullivan, during Sydney meeting, March 2017.

The presentation by Gary Sullivan on the current VCEG activities has made clear than VCEG is currently very involved with WG11 (MPEG) in various collaborations, and it would be important to understand how other collaborations would relate to WG11 (MPEG) and its scope of activities. VCEG focus is on coding, whereas standardization of topics such as quality measurement techniques are addressed in a different part of ITU, and has been shifting toward the recent JVET exploration for the potential development of a new video coding standard. A "Call for Evidence" was issued at the Hobart meeting, April 2017, jointly with WG11 (MPEG). This should be a major new project for VCEG. Gary Sullivan mentioned that “it would be important to understand the degree to which such new video standard could become applicable to still picture coding and how to coordinate on that aspect.”

At the JPEG Sydney meeting, March 2017, the JPEG XL project towards a new image coding standard was identified as a promising target for collaboration as it regards compression tools (the core activity of both groups) and the project is at an early enough stage to allow joint development from scratch.

At the VCEG Hobart meeting, April 2017, the JPEG XL main objectives and initial requirements have been presented to VCEG by Gary Sullivan. For many VCEG members, it was the first viewing of this information, and VCEG currently has not taken a position on collaboration in this area.

Regarding plenoptic content (light fields, point clouds, depth+texture, etc.) which is a main focus of activity in JPEG Pleno standardization, VCEG has previously developed multiview coding of video texture and depth (and joint coding of the two) as extensions of AVC and HEVC in collaboration with MPEG, but VCEG experts have not provided further input contributions since completion of those projects, and thus VCEG did not currently have a clear vision for potential collaborative work in that area.

1. **AHG recommendation**

The AHG recommends a joint JPEG-VCEG meeting in Torino, July 2017 to finally conclude on the possibility to initiate specific collaborations.

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