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Terms of Reference of the
Joint Collaborative Team on
3D Video Coding Extension Development

Purpose

This document provides the Terms of Reference for a Joint Collaborative Team (JCT) established according to Annex A to ITU-T Recommendation A.23 and ISO/IEC JTC 1 Standing Document 3. This team will be known as the ITU-T/ISO/IEC JCT on 3D video coding extension development. The JCT on 3D video coding extension development is established to collaboratively develop technically aligned twin text(s) for extensions to ITU-T | ISO/IEC video coding Recommendations | International Standards to define 3D video coding capabilities more advanced than the current multiview video coding (MVC) features of the AVC standard (ITU-T Recommendation H.264 | ISO/IEC 14496-10).

Potential new joint work beyond the scope of these terms of reference will require further agreement.

Parent Bodies

The parent bodies of the JCT on 3D video coding extension development are ITU-T WP3/16 and ISO/IEC JTC 1/SC 29/WG 11. In the following, ISO/IEC JTC 1/SC 29/WG 11 is also referred to as MPEG. The JCT shall report to its parent bodies.

Scope and Goals

The scope and goal of the project is the development of amendments or enhancement revisions to standards to define 3D video coding technology more advanced (in terms of achievable combinations of compression capability, support for synthesis of additional perspective views, representation of depth map information, etc.) than the current multiview video coding (MVC) features of the AVC standard (ITU-T Recommendation H.264 | ISO/IEC 14496-10). The standards

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for which these 3D video coding extension technologies will provide such enhanced capabilities may include ITU-T Rec. H.262 | ISO/IEC 13818-2, ITU-T Rec. H.264 | ISO/IEC 14496-10, and the High Efficiency Video Coding (HEVC) standard currently under joint development in the Joint Collaborative Team on Video Coding (JCT-VC). The form of the texts for standardization publication of the resulting extension technologies is likely to include common text or twin text amendments or revisions to the enhanced standard(s), and may also include one or more new standards – as to be determined appropriate by agreement of the parent bodies. Associated Conformance Testing and Reference Software Specifications will also be developed.

Deliverables and Naming

The intent is that the resulting ITU-T Recommendation and ISO/IEC International Standard(s) be technically aligned and fully interoperable for all conformance points.

The resulting text(s) will be converted by the parent bodies and higher-level committees into the appropriate paired ITU-T Recommendation and ISO/IEC International Standard and will be published as common text or twin text in a manner corresponding to the approach taken by the underlying standard(s) being extended by the developed specification(s).

Within the JCT and in communications emanating from it and the parent bodies, the extensions to the ITU-T Recommendation(s) | ISO/IEC International Standard(s) should informally be referred to by informal names to be selected in a timely fashion by the JCT with consent of the parent bodies, and formally as determined by the higher-level entities of ITU-T and ISO/IEC.

Each parent body that sends an outgoing liaison statement discussing the work of the JCT will provide a copy of the liaison statement to the management of the other parent body. Such outgoing liaison statements should primarily emanate from the parent body hosting a corresponding meeting of the JCT.

Participation

Those qualified to participate in either parent body may participate in the JCT. The Chairs of the JCT have the authority to invite experts to participate as permitted by ITU-T or ISO/IEC policies.

Meetings

JCT meeting venues and dates will be arranged to coincide with meetings of the parent bodies when the meetings are held under the auspices of ITU-T SG16 or MPEG, respectively. In exceptional circumstances the JCT meeting venues and dates may be arranged to coincide with a meeting of WP3/16 rather than a meeting of SG16 in its entirety.

When ITU-T SG 16 meets, a corresponding meeting of the JCT will be conducted under its auspices. In this case it is intended that MPEG will meet in close proximity.

When MPEG holds a meeting that is not close in timing to a meeting of ITU-T SG 16, a corresponding meeting of the JCT will be conducted under the auspices of MPEG. In this case, it is intended that ITU-T SG 16 Question 6 (the Visual Coding Experts Group of WP3/16) will meet in close proximity.

The JCT can use the days prior to an associated parent body meeting to conduct its work. The oversight responsibility for the actions of the JCT during these meeting sessions lies with ITU-T WP3/16.

The work of the JCT during an associated parent body meeting will be scheduled by the Chairs as part of the overall meeting schedule of that parent body, and may run concurrently with meetings of subgroups of the parent body. The oversight responsibility for the actions of the JCT during these meeting sessions lies with the hosting parent body. The JCT shall not meet during plenary sessions

of the hosting parent body, and the JCT meeting shall be concluded before the closing plenary of the hosting parent body.

Management

The management of the JCT will consist of two Chairs, one nominated by each parent body with the consent of the other.

The parent bodies must agree on any changes to the management team.

Documents and Contributions

For reasons of expediency, the JCT will maintain a single document registry and an electronic archive that are distinct from those of the parent bodies. The registry and archive will be linked to both the parent body web sites, and the parent bodies may ingest the JCT documents for their own reference and archival purposes.

Every contribution document to a meeting of the JCT should be registered in the document registry and uploaded to the electronic archive several days in advance of the meeting, to ensure that it is available for review by other participants. The Chairs will announce the precise deadline (which may be distinct from that of the parent bodies) prior to each meeting of the JCT. Documents that are not uploaded to the electronic distribution archive by the announced deadline are considered late, should be accepted only with the consensus of the meeting participants, and may be given a lower priority of consideration if accepted. This policy will be stated in the invitation announcement that is provided for every meeting to both organisations.

All documents and contributions will be in electronic form.

In order to facilitate cross-organisational communication, all input and output documents of the JCT will be public (including the drafts of the coding specification, reference software, and conformance test data). The JCT Chairs may approve exceptions to this policy on a case-by-case basis when requested by a contributor or when the Chairs determine that the submitted material is especially likely to be intended as non-public information. If such an exception applies, the document will be accessible only through a password-protected site accessible to members of the JCT and the parent bodies.

Working Methods

General Policies and Procedures

All group decisions will be made by the consensus of the JCT as determined by the JCT Chairs. All contributions intended to affect the work of the JCT will be conveyed to the JCT.

The JCT may establish "ad hoc groups" to coordinate activities to perform specific tasks between meetings of the JCT. Ad hoc group chairs will be appointed by the JCT Chairs with the consensus of the experts. Each ad hoc group shall submit a report of its activities as an input to the next meeting of the JCT. An ad hoc group may meet between meetings of the JCT, if the plan for such a meeting has been approved by the JCT. The oversight responsibility for the meetings and electronic communications of such ad hoc groups lies with ITU-T WP3/16.

Working relationship between the JCT and the parent bodies

As the goal of the JCT is to create technically aligned Specification(s), the consensus on the content of the developed Specifications will be determined within the JCT.

The output of the JCT will undergo the approval process of each parent body.

Should the approval process produce a differing outcome in each parent body, the parent bodies may resolve the situation directly or, preferably, delegate the harmonization to the JCT.

To facilitate communication to the JCT, it is desirable that, when a parent body wishes to provide input to the work of the JCT, the input be provided in written form and be recorded in the electronic archive of the JCT or in the JCT meeting report.

Any input to the JCT from a parent body shall be considered, taking into consideration the impact upon the requirements and concerns of the other parent body. When requested, the JCT shall report the action taken to the requesting parent body.

Technical starting basis

The work of the team will rely on the body of work already developed by the two parent organizations, and enhance and finalize it collaboratively. The parent bodies may provide results of additional Calls for Proposals.

Document handling

The JCT will maintain a single master draft for each of the Specifications under its development (the video coding, reference software, and conformance testing specifications), each under the control of a single chief editor nominated by the JCT Chairs with the consensus of the experts. The JCT document archive and software codebase will contain the text to be submitted to the parent bodies for approval. The versioning of the software codebase will be managed by a state-of-the art versioning system.

Patent and Copyright Issues

The ITU-T/ITU-R/ISO/IEC common patent policy shall apply. Contributions proposing normative technical content shall contain a non-binding informal notice of whether the submitter may have patent rights that would be necessary for implementation of the resulting standard(s). The notice shall indicate the category of anticipated licensing terms according to the ITU-T/ITU-R/ISO/IEC patent statement and licensing declaration form. Contributions of software source code for incorporation into the Reference Software for the standard(s) shall be provided with a suitable copyright disclaimer header text in a form acceptable to the parent bodies to enable publication of the source code and to enable users of the software to copy the software and use it for research and standardization purposes and as a basis for the development of products (while the submitter separately retains any associated patent rights for licensing to be conducted outside of ITU-T/ITU-R/ISO/IEC).

This obligation is supplemental to, and does not replace, any existing obligations of parties to submit formal IPR declarations to ITU-T/ITU-R/ISO/IEC.

Meeting Reports

A meeting report will be provided by the JCT Chairs after the conclusion of each meeting and will be submitted to the parent bodies and posted to the JCT electronic archive.

The report should include:

- Dates and venue

- Chairpersons of the meeting

- Attendance list with affiliation

- Agenda of the meeting

- List of documents considered with source

- Summary of results and an outline of any outstanding issues or resolutions

- Future activity plans

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