

AHG on Genomic Information Representation (m45235)

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Joint AHG with ISO/IEC TC276

Mandates

1. To disseminate the information on the activities jointly carried out by ISO/IEC JTC 1/SC 29/WG 11 and ISO TC 276/WG 5 to other ISO TC and other organizations.
2. To discuss and coordinate a collaboration with GATK development team to support MPEG-G as native format.
3. To discuss and coordinate MPEG contributions to relevant bioinformatics conferences and events.
4. To contribute to the editing and to the revision of the DIS of Part-1, Part-2, Part-3 and for the CDs of Part-4 and Part-5.
5. To finalize the collection and definition of test item descriptions and binary streams for Conformance testing.
6. To identify work items for MPEG-G Version 2.
7. To stimulate the collection of new content in line with new and emerging sequencing technologies.
8. To investigate anonymization methods for genomic data and understand how MPEG-G can support their implementation.

AHG Activity Overview

- Work mainly focused on Editing of Part 1 and Part 2 according to the NB comments received with DIS ballot results and revision of support input documents

AHG Activity Overview

- Coordination activities with TC276 and other ISO committees:
 - Presentation of standardization status at TC276/WG meeting in Potsdam on the 12th of December
 - All output documents from Ljubljana and Macau approved by TC276/WG5

AHG Activity Overview

- Dissemination and promotion:
 - MPEG WS on “MPEG-G - a standard to compress DNA reads” was held on the 13th October 2018 one day after the 124th MPEG meeting in Shenzhen kindly supported and hosted by Tencent.
 - Eight talks followed by lively panel discussions
 - Slides: available (except a few talks)

AHG Activity Overview

- Dissemination and promotion:
 - WS on ISO/IEC Standardization on October 29th in Tokyo, Japan
 - MPEG-G session by Itaru Kaneko
 - <http://www.ipsj.or.jp/event/s-seminar/2018/ITSCJ-JPEGMPEG/>
 - WS on Big data on Oct. 14 in Hangzhou, MPEG-G standard presented by L. Chiariglione

AHG Activity Overview

- 11 input documents:

MPEG number	Title	Source
m45266	Proposed Updates to the MPEG-G Genomic Information Database	Jan Voges , Idoia Ochoa , Mikel Hernaez , Fabian MÃ¼ntefering , Giorgio Zoia
m45267	Thoughts on future standardization activities in the area of genomic information representation	Paolo Ribeca , Jan Voges , Tom Paridaens , Mikel Hernaez , Idoia Ochoa , Claudio Alberti , Marco Mattavelli , Giuseppe Codispoti , Jaime Delgado , Daniel Naro
m45294	Study on ISO/IEC 23092-2	Jan Voges , Tom Paridaens , Daniel Naro , Dmitry Repchevski , Jaime Delgado , Mikel Hernaez
m45601	Comments on ISO/IEC DIS 23092-1 and ISO/IEC DIS 23092-2	Daniel Naro , Jan Voges , Tom Paridaens , Dmitry Repchevski , Jaime Delgado , Paolo Ribeca , Idoia Ochoa , Mikel Hernaez
m46043	MPEG-G record: proposed editorial rework	Giorgio Zoia , Claudio Alberti , Daniele Renzi , Massimo Ravasi

AHG Activity Overview

- 11 input documents:

MPEG number	Title	Source
m46045	Study on ISO/IEC DIS 23092-2	Claudio Alberti, Giorgio Zoia, Daniele Renzi, Massimo Ravasi
m46047	Proposal for new use cases in MPEG-G	Christian Iseli, Giorgio Zoia, Claudio Alberti
m46054	Study on ISO/IEC DIS 23092-1	Daniele Renzi , Giorgio Zoia , Claudio Alberti , Massimo Ravasi
m46060	Support of MPEG-G in IGV web viewer	Giuseppe Codispoti
m46068	Current status of MPEG-G reference software implementation	Massimo Ravasi , Daniel Naro , Jan Voges , Junaid Ahmad ,
m46100	Identified issues in ISO/IEC DIS 23092-3	Junaid Ahmad

AHG Activity Overview

- Part 2 related input documents:
 - M46043: “MPEG-G record: proposed editorial rework”
 - Consensus on the proposed editorial changes enabling possible implementation optimizations

AHG Activity Overview

- Part 2 related input documents:
 - M45601: “Comments on ISO/IEC DIS 23092-1 and ISO/IEC DIS 23092-2 ”
 - Possible problem identified for current mmttype and rftt specification: solved by appropriate editorial change supported by NB comments removing ambiguities occurring in some specific decoding cases
 - Issue about multiple alignments information: solved by an editorial specification, supported by NB comments, specifying how to maintain backward compatibility and additional ranking of alignements whenever available
 - Comments on class concepts: unclear the problem that is addressed by a revision of classes, some valuable observations to be taken in account by MPEG-G Version2 activity.

AHG Activity Overview

- Part 2 related input documents:
 - M45294: Study on ISO/IEC 23092-2
 - M46045: Study on ISO/IEC DIS 23092-2
- Both inputs have been extensively used to answer NB comments of the DIS ballot

AHG Activity Overview

- Progress of reference SW integration:
 - Part 1: about 75% completed
 - Planned to be ready for DIS by MPEG March meeting
 - Part 2: about 75% completed
 - 6 conformance bitstreams are correctly decoded
 - Other bitstreams of MPEG-G under test
 - Missing modules of the reference SW planned to be ready for DIS by MPEG March meeting
- Reference SW repository
 - Migration to MPEG official repository planned for next meeting


Sessions during the week

- Monday 13:30-22:00
 - m45274 Summary of Voting on ISO/IEC CD 23092-5
 - m45290 Summary of Voting on ISO/IEC DIS 23092-2
 - m46045 Study on ISO/IEC DIS 23092-2 Claudio Alberti, Giorgio Zoia, Daniele Renzi, Massimo Ravasi
 - m45294 Study on ISO/IEC 23092-2 Jan Voges, Tom Paridaens, Daniel Naro, Dmitry Repchevski, Jaime Delgado, Mikel Hernaez
- Tuesday 9-13:30
 - m45267 Thoughts on future standardization activities in the area of genomic information representation Paolo Ribeca, Jan Voges, Tom Paridaens,
 - m46047 Proposal for new use cases in MPEG-G Christian Iseli, Giorgio Zoia, Claudio Alberti, Mikel Hernaez, Idoia Ochoa, Claudio Alberti, Marco Mattavelli, Giuseppe Codispoti, Jaime Delgado, Daniel Naro
 - m45266 Proposed Updates to the MPEG-G Genomic Information Database Jan Voges, Idoia Ochoa, Mikel Hernaez, Fabian Mntefering, Giorgio Zoia
 - m46060 Support of MPEG-G in IGV web viewer Giuseppe Codispoti
 - m46100 Identified issues in ISO/IEC DIS 23092-3 Junaid Ahmad
- Tuesday 14:30-22:00
 - Implementation of comments part 1 and 2

Output documents plan

- ISO/IEC 23092-1 FDIS
- ISO/IEC 23092-2 FDIS
- Study on ISO/IEC 23092-3 DIS
- Study on ISO/IEC 23092-5 CD
- Disposition of comments on ISO/IEC 23092-1 DIS
- Disposition of comments on ISO/IEC 23092-2 DIS
- Disposition of comments on ISO/IEC 23092-5 CD
- Master table of Terms and definitions for ISO/IEC 23092
- Presentations of the MPEG WS: “MPEG-G - a standard to compress DNA reads” in Shenzhen
- Thoughts on future standardization activities in the area of genomic information representation
- Status and Workplan for ISO/IEC 23092-4
- MPEG-G Genomic Information Database

Recommendations

- Finalize answers to NB comments on Part 1 and Part 2 DIS ballots
 - Provide answers to NB comments Part 5 CD ballot
 - Complete the review of input contributions
 - Proceed with the reference SW development work according to plan
 - Possibly start technical and editorial work on the study of DIS text of Part 3 during the week according to received inputs
 - Update the database for new items and for conformance testing according to received inputs
 - Update and extend the plan of dissemination activities
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