

# **AHG on Genomic Information Representation (m49925)**

## **ISO/IEC 23092 (MPEG-G)**

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**Joint AHG with ISO/IEC TC276**

# Mandates

1. To finalize the implementation of missing modules of the reference SW and produce the related conformance bitstreams
2. To disseminate the information and coordinate the activities jointly carried out by ISO/IEC JTC 1/SC 29/WG 11 and ISO TC 276/WG 5 to other ISO TCs, GA4GH and other organizations.
3. To discuss and coordinate WG 11 contributions to relevant bioinformatics conferences and events.
4. To collect contributions to the MPEG-G best practice document
5. To collect additional test data useful to be used for Part 6 evaluation of the performance of proposed technologies.
6. To investigate privacy protection methods for genomic data and understand how MPEG-G can support their implementation.
7. To compile common test conditions for the evaluation of MPEG-G performance.

- **Work mainly focused on:**
  - Development of Part 4 reference software for both Part 1 and Part 2
  - Generation of bitstreams for Part 5 Conformance
  - Reviews of input documents
  - Updates of the data base with new genomic data

# AHG Activity Overview

- **Coordination activities with TC276 and other ISO committees:**
  - No meeting with TC276

# AHG Activity Overview

- **Dissemination and promotion of MPEG-G:**
  - Call for Part 6 submitted for distribution to GA4GH members
  - ISMB/ECCB WS on Genomic data compression in Basel July 2019
  - papers accepted for publication

# AHG Activity Overview

- 9 Input documents:

MPEG number	Title	Source
m50605	Proposed Editorial Corrections to N18728 MPEG-G Part 2	Rene van der Vleuten, Patrick Y.H. Cheung
m50789	On the pairing and indexing of non-aligned content	<a href="#">Giorgio Zoia</a> , <a href="#">Simone Casale-Brunet</a> , <a href="#">Claudio Alberti</a>
m50805	Report on the generation of Conformance bitstreams	<a href="#">Giorgio Zoia</a>
m50806	Draft text of ISO/IEC DIS 23092-5 - Conformance	<a href="#">Giorgio Zoia</a>
m50839	Proposed corrections to MPEG-G Part 1 text	<a href="#">Daniele Renzi</a>
m50908	Suggested corrections to ISO/IEC 23092-2	Claudio Alberti, Massimo Ravasi, Simone Casale Brunet, Alain Le PÄ"lerin, Daniele Renzi
m50913	MPEG-G Best Practices Deployment Guide	Dunling Li, Claudio Alberti, Patrick Cheung, Jaime Delgado, Jan Voges, Itaru Kaneko, Marco Mattavelli, Paolo Ribeca
m50946	MPEG-G API: Natively supporting pileup queries	Paolo Ribeca
m51192	Proposed Updates to the MPEG-G Genomic Information Database	<a href="#">Christian Rohlfig</a> , <a href="#">Viktor Tunev</a> , <a href="#">Jan Voges</a>

# AHG Activity Overview

- **Progress of Part 4 Reference Software:**
  - Part 1:
    - Two minor functionalities missing (signature, offset)
  - Part 2:
    - One coding tool missing (push-in)
- **Reference SW repository**
  - Migration to MPEG official repository to be completed with DIS submission

- **Status of Part 5 Conformance**
  - Conformance of Part 1
    - Bitstreams available and cross checked **24**
    - Available by the end of the meeting **2**
  - Conformance of Part 2
    - Bitstreams available and cross checked **42**
    - Available for the end of the meeting **3**



# Recommendations

- Issue a corrigendum for Part 1
- Issue a corrigendum for Part 2
- Complete during the week the reference SW development work and promote Part 4 to DIS stage
- Promote Part 5 to DIS
- Update the internal and external database with new test items as suggested by input proposals to this meeting

- Internal MPEG-G Genomic Information Database (Jan Voges)
- MPEG-G Genomic Information Database (Jan Voges) (Public)
- Text of ISO/IEC DIS 23092-4 Reference Software (Massimo Ravasi)
- Text of ISO/IEC DIS 23092-5 Conformance (Giorgio Zoia)
- Text of Cor 1 of 23092-1 Transport and storage of genomic information (Editors to be assigned)
- Text of Cor 1 of 23092-2 Coding of Genomic Information (Editors to be assigned)