INTERNATIONAL ORGANISATION FOR STANDARDISATION
ORGANISATION INTERNATIONALE DE NORMALISATION
ISO/IEC/JTC 1/SC 29/WG 11
CODING OF MOVING PICTURES AND AUDIO

ISO/IEC JTC 1/SC 29/WG 11 N11079
January 2010 – Kyoto, JP

Source: **Convener of MPEG**
Status: **Approved by WG11**
Subject: **MPEG Press Release**
Date: **22 January, 2010**

MPEG targets next generation teleconferencing and personalized audio in its newest technology

Kyoto, Japan – The 91st MPEG meeting was held in Kyoto, Japan from the 18th to the 22nd of January 2010.

Highlights of the 91st Meeting

Advanced technology enables bitrate-efficient teleconferencing and personalized audio

Work on MPEG Spatial Audio Object Coding (SAOC) is completed at MPEGs 91st meeting. MPEG SAOC (ISO/IEC 23003-2) is an advanced technology for the efficient distribution of audio combined with features for personalization and interactivity. With SAOC, any number of audio objects may be distributed over one mono or stereo stream, enabling user interactivity (for example, changing the volume and position of any audio object) in any low bandwidth application. The versatility of the technology makes it possible that the same SAOC content can be played back on any device – stereo, surround or headphones (Virtual-3D) or can even be decoded with a non-SAOC device. SAOC serves as the basis for many different applications based on the identical core technology, of which interactive audio remixing (e.g. Karaoke) and highly flexible and efficient communication solutions are the most prominent ones.

A new application format standard, Interactive Music Application Format (IMAF) (ISO/IEC 23000-12), has also been finalized at this meeting. The Interactive Music Application Format is an example of using SAOC to implement a personal music mix application. IMAF specifies how to combine multiple audio tracks mixed during the music production process with additional information to create a well-defined content format that facilitates storage, interchange, management, editing and, most importantly, interactive presentation of music for a personalized music mix. For example, with IMAF the vocal, keyboard and/or drums from a track can be emphasized to customize the mix to the tastes of a particular user. IMAF also enables users to publish the control information for their recomposed music content, enabling others with IMAF to experience their musical arrangements.

An illustration of an IMAF solution enabled by ISO/IEC 23000-12.

MPEG and ITU-T SG16 form Joint Collaborative Team (JCT) for High Performance Video Coding

At its 91st meeting, MPEG reached an agreement with ITU-T SG16 on launching a joint standards development project towards high performance coding of video, targeting resolutions from QVGA to higher than those used currently for HDTV. A new Joint Collaborative Team on Video Coding with ITU-T SG16 is being established to work on the project. A final joint Call for Proposals (CfP) for video coding technology was issued together with the ITU-T SG16 Video Coding Experts Group (VCEG) at the meeting, and MPEG's vision and requirements document for the project was substantially updated (both documents are available at: http://mpeg.chiariglione.org/hot_news.htm). In response to the prior preliminary CfP, 31 pre-registration responses were received from a variety of companies and research labs indicating that they plan to submit comprehensive proposals in response to the final CfP. Following extensive and formal subjective testing of the proposals (to be performed in March and April of 2010), the first meeting of the JCT will be held in Dresden in April 2010 for evaluation of the results and determination of next steps on the project. The standard produced by the new project is expected to further reduce by 50% the data rate for coding high resolution video at high quality compared to the current state-of-the-art AVC standard (ITU-T H.264 | ISO/IEC 14496-10).

Creating solutions for Advanced IPTV Terminals

Substantial progress was made at the 91st meeting toward designing standards for Advanced IPTV Terminal (AIT) solutions. AIT strives to extend current IPTV technology toward the seamless integration of personal content creation and distribution, shopping-commerce, social networks and Internet distribution of digital media. AIT will enable service aggregation to enable service providers to offer users a plethora of innovative services. AIT is expected to be based on many available MPEG and ITU-T technologies for media processing and signaling. MPEG and ITU-T SG16 have decided to develop the AIT standard project jointly. A Call for Proposals, available at http://mpeg.chiariglione.org/hot_news.htm was issued at this meeting together with Q.13 of ITU-T SG16 “Multimedia terminals, systems and applications”. Responses are due shortly before and will be evaluated at the 92nd MPEG meeting. The new standard is expected to achieve Final Draft International Standard status in July 2011.

MXM standard debuts to facilitate easy access to MPEG tools across a global market

The MPEG eXtensible Middleware (MXM) technology specification (ISO/IEC 23006) was finalized at the 91st MPEG meeting. Through its set of standardized APIs and architecture, MXM provides a framework by which a potential global market of MXM applications can access individual MPEG tools in a seamless way. The MXM standard will also facilitate the deployment of innovative business models because it enables the easy design and implementation of media-handling value chains. Reference software released as “open source” with a BSD license comes together with the standard to accelerate its deployment.

MPEG creates efficient and flexible standard for 3D graphics compression

MPEG has completed the Scalable Complexity 3D Mesh Compression (SC-3DMC) standard (ISO/IEC 14496-16) at its 91st meeting. This new technology provides efficient compression of meshes for 3D graphics while simultaneously meeting the requirement that mesh compression be performed with varying amounts of complexity depending on the application. For example, not all 3DG applications have the same requirements for compression. Likewise, some applications, such as real-time applications for smart phones, have access to limited computational resources and memory capacities. SC-3DMC provides a response to these requirements by offering a technology that can scale in its operating points for both compression and complexity, depending on the needs of the application. Current implementations show remarkable compression performance with reasonable complexity for both the encoding and decoding processes, even on ordinary PCs.

Samples of a 3D graphics application for a smart phone

MMT workshop targets requirements and technologies for streaming of MPEG content

The second Workshop for MPEG Media Transport (MMT) was held on 20 January 2010 during the 91st MPEG meeting at the Kyoto Research Park in Kyoto, Japan. The purpose of this event was to gather new requirements, use cases, and contributions related to the transport of multimedia content over heterogeneous networks. In particular, MPEG is gathering information on current limitations of available standards and new technologies in the area of media download and streaming, delivery of MPEG media across emerging network environments, quality of service/experience as well as cross layer technologies. Based on various inputs received from industries, MPEG is now preparing a new standardization project on MMT with a Call for Proposals to be issued at its 92nd meeting in Dresden, DE. The new standard is expected to reach its Final Draft International Standard stage in July 2011.

Digging Deeper – How to Contact MPEG

Communicating the large and sometimes complex array of technology that the MPEG Committee has developed is not a simple task. The experts past and present have contributed a series of white-papers and vision documents that explain each of these standards individually. The repository is growing with each meeting, so if something you are interested is not there yet, it may appear there shortly – but you should also not hesitate to request it. You can start your MPEG adventure at: http://mpeg.chiariglione.org/technologies.htm.

Ends

Further Information

Future MPEG meetings are planned as follows:

No. 92, Dresden, DE, 19-23 April, 2010
No. 93, Geneva, CH, 26-30 July, 2010
No. 94, Guangzhou, CN, 11-15 October, 2010

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This press release and other MPEG-related information can be found on the MPEG homepage:

http://mpeg.chiariglione.org/

The text and details related to the Calls mentioned above (together with other current Calls) are in the Hot News section, http://mpeg.chiariglione.org/hot_news.htm. These documents include information on how to respond to the Calls.

The MPEG homepage also has links to other MPEG pages which are maintained by the MPEG subgroups. It also contains links to public documents that are freely available for download by those who are not MPEG members. Journalists that wish to receive MPEG Press Releases by email should contact Dr. Arianne T. Hinds at arianne.hinds @ infoprint.com.