

MINUTES

DICOM WORKING GROUP FOUR (Compression)

Date and time: Wednesday, November 4, 2020
10:00-11:00am US ET

Presiding Officer: David Clunie, Chair

Secretariat: Shayna Knazik, DICOM/MITA

Voting Members Present

AetherAI	Pei-Chen Lin
Agfa US Corp	Bill Wallace
Carl Zeiss Meditec AG	Régis Deshayes
DICOM/MITA	Shayna Knazik
PixelMed	David Clunie
Philips	Nick Haarselhorst

Voting Members Not Present

*Agfa US Corp	Jos De Baerdemaeker
*Corista, LLC	Eric Wirch
*DesAcc EMEA Ltd	Graham King
*GE Healthcare	Yongjian Bao
*Korean PACS Standards Committee	Hee-Joung Kim
*Neagen	Rami Hietala
*Sectra Imaging IT Solutions AB	Erik Edespong
*University of Warwick	Victor Sanchez

*Not present at two consecutive meetings and therefore not counted for quorum during this tcon

Others (Observers, Alt-voting, staff) Present

AetherAI	Chia-Pin Kang, Observer
Apteryx Imaging	Hervé Guillemet, Observer
DesAcc EMEA Ltd	Konstantinos Alexopoulos, Observer
GE Healthcare	Steven Nichols, Observer
Philips	René van der Vleuten, Alt. Voting
Self	Chris Hafey, Observer
vICTor Works	Victor Derks, Observer

1. Administrative

- Welcome and roll call: the teleconference was called to order and a quorum was present.
- Antitrust and patent rules: reviewed.
- Agenda: reviewed and approved.
- Approval of minutes from 2020-08-26 and 2020-10-07: reviewed and approved.

2. Web browser performance issues for medical imaging – presentation by Chris Hafey

- Chris Hafey provided an overview of web browser performance issues for medical imaging. The PowerPoint he presented will be uploaded to the FTP meeting folder for review.

3. ISO JPEG group on their Pleno (plenoptic) point cloud encoding scheme

- There was not time to discuss this item, but David briefly mentioned it and asked members to take a look at the request and the work of this group for discussion on the next call.
- <http://jpeg.org/jpegpleno/>
- <http://plenodb.jpeg.org/>
- Note that DICOM does support point cloud objects in theory:
 - http://dicom.nema.org/medical/dicom/current/output/chtml/part03/sect_A.69.html
 - http://dicom.nema.org/medical/dicom/current/output/chtml/part03/sect_C.27.5.html

4. Standing items for WG-04 to consider adding to the DICOM Standard

- *New compression schemes include:*
 - AI (including segmentations, contours and parametric maps)
 - enterprise imaging
 - digital pathology
 - web browser based viewers (performing frame level access and progressive transmission)
- *Specific schemes to consider include:*
 - LZMA2
 - Float and double pixel data for parametric maps
 - HTJ2K (faster, easier, less effective) esp. in browser viewer progressive role
 - JPEG-XL (now being finalized, open source code available for testing)
 - lossy and lossless variants of H.265 (HEVC) including HEIF for still images and volumes
 - iSyntax (now openly documented)
 - schemes for single bit compression (for segmentations), G4, JBIG, JBIG2, FLIF
 - deflate and bzip2 for individual image frames +/- DICOMweb bulkdata components
 - bzip2 for entire dataset (à la existing deflate) (e.g., for SR)
- *Items from past tcons:*
 - Why is web browser performance a problem?
 - Not changing what came off the camera
 - What characteristics of the ultrasound echo would be amenable to the new compression scheme?
 - Would the group like to do testing on quantitative thresholds for performance?
 - Should we add a transfer syntax for PNG (portable network graphics)? (including single bit)

5. Upcoming calls

- WG-04 holds biweekly calls every other Wednesday from 10-11am US ET. The next WG-04 calls are scheduled for:
 - November 18, 2020 – multi-frame ultrasound compression needs (O'Donnell)

- December 2, 2020
- December 16, 2020
- FYI: Other relevant DICOM meetings
 - DICOM Standard Committee (DSC): [December 4, 2020 @ 9am-1pm US ET](#)
 - WG-06 Base Standard: [November 9-13, 2020](#)
 - *Dial-in information for all DICOM calls can be accessed in the [DICOM Calendar](#)*

6. Adjournment: the meeting was adjourned at 10:59am US ET.

Prepared and submitted by Shayna Knazik

Reviewed by Counsel Peter Tolsdorf 11/23/2020