

## **MINUTES**

### **DICOM WORKING GROUP FOUR (Compression)**

**Date and time:** Wednesday, August 26, 2020  
11:00am-12:00pm 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
DesAcc EMEA Ltd	Graham King
DICOM/MITA	Shayna Knazik
PixelMed	David Clunie
Philips	Nick Haarselhorst

#### **Voting Members Not Present**

*Agfa US Corp	Jos De Baerdemaeker
*Corista, LLC	Eric Wirch
*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**

AAPM/Univ. of Arkansas for Medical Sciences	Larry Tarbox, Observer
AetherAI	Chia-Pin Kang, Observer
Affiliated Pathologists Medical Group	Eric Glassy, Observer
Apteryx Imaging	Hervé Guillemet, Observer
Cloudinary	Jon Sneyers, Observer
DesAcc EMEA Ltd	Konstantinos Alexopoulos, Observer
GE Healthcare	Steven Nichols, Observer

Siemens Healthineers  
StatRad  
vICTor Works  
Vidagos

Chris O'Donnell, Observer  
Chris Hafey, Observer  
Victor Derks, Observer  
Cheryl Petersilge, Observer

## 1. Administrative

- Welcome and roll call: the teleconference was called to order and a quorum was present.
- Antitrust and patent rules: NEMA Antitrust and DICOM patent statement were reviewed.
- Agenda review and approval: the agenda was reviewed and approved.
- Approval of minutes from 2020-07-29: the minutes were reviewed and approved.

## 2. Consider new compression schemes to add to DICOM, especially for:

- AI (including segmentations, contours and parametric maps)
- enterprise imaging
- digital pathology
- web browser based viewers (performing frame level access and progressive transmission)

## 3. Specific schemes to consider include:

- HTJ2K (faster, easier, less effective) esp. in browser viewer progressive role: Chris Hafey offered to put together an overview of HTJ2K pros/cons, particularly web browser issues, on a future call. The group agreed to focus on the problem first and then look for solutions in the next step.
  - **Action:** Shayna to note this as the main item for the next agenda. Also, send the agenda to WG-26 and WG-27.
- JPEG-XL (now being finalized, open source code available for testing)
  - Jon provided a brief status update on JPEG-XL and was asked to highlight what can be done in terms of progressive encoding. The group also asked Jon to provide an overview of JPEG-XL compared to JPEG-2K. The strategy of the JPEG-XL team is to have a production-ready open source reference implementation and a single profile to minimize interoperability issues.
- iSyntax (now openly documented)
  - Nick shared that iSyntax is in the early stages of the standardization process. They will continue to keep WG-04 informed as things progress.
- schemes for single bit compression (for segmentations), G4, JBIG, JBIG2, FLIF
  - David shared some results from a single bit compression scheme experiment.
- deflate and bzip2 for individual image frames +/- DICOMweb bulkdata components
- bzip2 for entire dataset (à la existing deflate) (e.g., for SR)
  - After discussion with the group, it was decided that Bill and David will meet offline to discuss how to do this more for part of the dataset, and will try to figure out the use case/users that would have the most use out of that.

## 4. Items from July 29<sup>th</sup> tcon: these items were not discussed.

- Why web browser performance is 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)?

**5. Next T-con**

- **Action:** Shayna to circulate a Doodle poll for a new standing time for WG-04 biweekly tcons
- *FYI: Schedule of other relevant [DICOM meetings](#)*
  - *DICOM Standard Committee (DSC): [December 4, 2020 @ 9am-1pm US ET](#)*
  - *WG-06 Base Standard: [August 31-September 4 @ 9am-6pm US ET](#)*

**6. Adjournment:** the meeting was adjourned at 12:08pm US ET.

Prepared and submitted by Shayna Knazik

Reviewed by Counsel Peter Tolsdorf on 10/8/2020