

MINUTES

DICOM WORKING GROUP FOUR (Compression)

Date and time: Wednesday, October 7, 2020
10:00-11:00am US ET

Presiding Officer: David Clunie, Chair

Secretariat: Shayna Knazik, DICOM/MITA

Voting Members Present

DICOM/MITA Shayna Knazik
PixelMed David Clunie

Voting Members Not Present

AetherAI	Pei-Chen Lin
*Agfa US Corp	Jos De Baerdemaeker
Agfa US Corp	Bill Wallace
Carl Zeiss Meditec AG	Régis Deshayes
*Corista, LLC	Eric Wirch
DesAcc EMEA Ltd	Graham King
*GE Healthcare	Yongjian Bao
*Korean PACS Standards Committee	Hee-Joung Kim
*Neagen	Rami Hietala
Philips	Nick Haarselhorst
*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

Apteryx Imaging	Hervé Guillemet, Observer
Cloudinary	Jon Sneyers, Observer
DesAcc EMEA Ltd	Konstantinos Alexopoulos, Observer
GE Healthcare	Steven Nichols, Observer
Philips	René Van Der Vleuten, Observer
Siemens Healthineers	Chris O'Donnell, Observer
StatRad	Chris Hafey, Observer

1. Administrative

- Welcome and roll call: the teleconference was called to order and a quorum was not present.
- Antitrust and patent rules: reviewed.
- Agenda: reviewed and approved.
- Approval of minutes from 2020-08-26: informally reviewed—will vote to approve on the next call.

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:

- LZMA2
- Float and double pixel data for parametric maps
- HTJ2K (faster, easier, less effective) esp. in browser viewer progressive role: not discussed
- **JPEG-XL** (now being finalized, open source code available for testing)
 - Jon provided a brief update on JPEG-XL. Their group is meeting this week to discuss FDIS ballot comments. Jon noted that a number of entropy coders have been removed but the one that is left has additional features. Anyone interested in testing these changes is encouraged to download the code. Their group plans to update the current whitepaper on this topic to address the changes.
- iSyntax (now openly documented): not discussed this call
- schemes for single bit compression (for segmentations), G4, JBIG, JBIG2, FLIF: not discussed this call
- deflate and bzip2 for individual image frames +/- DICOMweb bulkdata components: not discussed this call
- bzip2 for entire dataset (à la existing deflate) (e.g., for SR): not discussed this call

4. Item to consider on future calls:

- 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)? (including single bit)

5. Next T-con

- WG-04 holds biweekly calls every other Wednesday from 10-11am US ET. The next WG-04 calls are scheduled for:
 - October 21, 2020 – cancelled
 - November 4, 2020 – web browser performance issues for medical imaging (Hafey)
 - November 18, 2020 – multi-frame ultrasound compression needs (O'Donnell)
- 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 early at 10:31am US ET.

Prepared and submitted by Shayna Knazik
Reviewed by Counsel Peter Tolsdorf on 11/9/2020