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MINUTES

JOINT DICOM MEETING

WORKING GROUP TWO (WG-02) (Projection Radiography and Angiography) WORKING GROUP TWENTY EIGHT (WG-28) (Physics)

Version 1

Logistics:

April 1-3, 2019; 09:00 to 17:00

Memorial Sloan Kettering (MSK) Hospital

1275 York Ave, New York, NY 10065, USA

Meeting room S-1132 (Schwartz Building, 11th Floor – see map at the end of this document)

Presiding Officers:

Francisco Sureda, Chair WG-02

Annalisa Trianni, Co-Chair WG-28

Donald Peck, Co-Chair WG-28

Secretary:

Shayna Knazik (AAPM)

Voting Members Present

AAPM

EFOMP, ESR

GE Healthcare

AAPM

PACS Health

Siemens Healthcare GmbH

Represented by

Donald Peck

Annalisa Trianni

Francisco Sureda

Nick Bevins

Steve Massey

Heinz Blendinger

1. Preliminary Events

- Identified participants.
- Reviewed the agenda and revised as needed.

- Reviewed minutes from the meeting on September 19-21, 2018 in Helsinki, Finland:
 - <https://www.dicomstandard.org/wgs/>
 - <http://dicom.nema.org/Dicom/minutes/WG-02/2018/>
 - <http://dicom.nema.org/Dicom/minutes/WG-28/2018/>

- All documents discussed at this meeting can be found at:

<ftp://medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/WG02/2019/2019-04-01/>
<ftp://medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/WG28/2019/2019-04-01/>

2. CP Review

- Members reviewed the advances of the CPs discussed during the last meeting, and will review new CPs related to the scope of WG-02 and WG-28.

Number	Name	Submitted	Assigned	Coded Status	Comments/Actions for WG-02 and WG-28
CP 1319	Frame Of Reference Reliability	Francisco Sureda, et al.	Ulrich Busch	Assigned	WG-02 reviewed the version 13. Action Item (Francisco Sureda): Contact Ulrich Busch to include examples of SPECT-CT or PET-MRI. WG-02 agrees with version 13 of the CP.
CP 1800	Field of View Origin clarification needed	Wim Corbijn	Wim Corbijn	Assigned	Following the indications of Wim Corbijn, Francisco Sureda included a table with the values which describe the images. The update was not taken in by WG-06 (Jan and Mar 2019). Need to think about the rationale for the CP and see if it could be included Part17. WG-02 recommended Wim to modify the CP to propose changes to Part 17 only. No further action at this time.
CP 1807	Corrections of Performed Storage Module	Sureda	O'Donnell	Final Text In 2018e	After review of the version 02 of the CP from Kevin O'Donnell's, a new of version (v.03) of the CP was created and was sent to Kevin. No further comments.
CP 1846	Replace DCM code for circumscribed with SNOMED codes	David Clunie	David Clunie	Draft Final Text	Members reviewed and have no further comments at this time.
CP 1850	Change old RT-style SNOMED IDs to CT-style Concepts IDs	David Clunie	David Clunie	Final Text	Members checked Part 17 of the standard. This CP affects the whole standard. Members reviewed and have no further comments.
CP 1855	Duplicate Irradiation Event UID	Silver	David Clunie	Draft Final Text	Members reviewed and have no further comments at this time.
CP 1863	Dose (RP) conditions are too restrictive in RDSR template TID 10003B	Kruse	Wim Corbijn	Assigned	Members reviewed and sent comments to Wim Corbijn. See additional notes below.
CP 1881	Correct in PS3.16 Size Specific Dose Estimation	Till Hoenig	Björn Nolte	Assigned	Members reviewed this CP and corresponded with WG-21. See additional notes below.
CP 1883	Retire DCM Digial Mammo Code	David Clunie	David Clunie	Assigned	Members reviewed and have no further comments at this time.
CP 1885	Correct CP1744 General Anatomy Optional Required Type 2	David Clunie	David Clunie	Assigned	Members reviewed and have no further comments or changes to the content.
CP 1899	Number of frames not zero	John Perry		NEW Feb'19	Members reviewed this CP.
CP xxxx	Update SIGMOID function formula	Wim Corbijn		NEW Feb'19	Members reviewed this CP.
CP 1915	Focal Spot corrections for CT	Björn Nolte		NEW March'19	Members reviewed this CP, agreed that it is applicable to Projection X-Ray, and coresponded with WG-21. See additional notes below.

- Additional notes on CP 1915:
 - WG-02 and WG-28 reviewed CP 1915 and concurred that the definition of the existing focal spot(s) attribute, i.e. (0018,1190), should not be changed as it is used throughout the standard. Donald Peck reached out to Till Hoenig, Chair of WG-21 and said “If you use your method of adding a “Focal Spot IEC Flag” and changing the description of (0018,1190) a legacy system that does not use/understand the IEC flag would interpret two values in (0018,1190) as two focal spots, not two dimensions. Instead a new attribute for Focal Spot(s) Dimension should be created that should be added for all modalities. A coded term for Focal Spot(s) Dimension needs to be added in Part16 for SR, etc.”
 - Till Hoenig replied, “I fully understand your concern and please be sure that we have also seen these. On the other hand we have also considered introducing a new attribute, but we also see a big concern there: In some contexts (e.g. Multiframe) the current Focal Spot attribute has Type 1. So if we would introduce an additional (IEC compliant) attribute...how to handle the old one? Fill with dummy data? This would introduce at least a similar mess up. WG06 also saw this problem. Besides this our group came across that the Focal Spot attribute most likely will not be considered/interpreted for diagnostic reasons but mostly be (manually) interpreted by a hospital physics group.”

- Additional notes on CP 1881:
 - WG-28 reviewed CP 1881 and sent an email to Till Hoenig of WG-21 saying that WG-28 “does not agree with replacing the existing SSDE attributes (hierarchy) by a new one. There is no need to remove the existing SSDE methods (which may already be used) but in *Table CID 10023. Size Specific Dose Estimation Method for CT* add a code/code meaning for “Size Specific Dose Estimation IEC”. If you remove the existing methods any system that is already using it becomes “non-compliant” when this isn’t necessary. *Table TID 10013. CT Irradiation Event Data* that uses the existing methods is already conditional based on AAPM 204, etc., therefore the use of the IEC methods can be added also with conditional requirements. The DICOM standard should just allow the use of IEC or methods/concepts, but not limit the use cases.”
 - Till Hoenig replied, “From my/our point of view it is NOT possible to “merge” the new IEC SSDE structure into the existing one. Reasons:
 - The existing structure starts in item 30 with the array of SSDE values, having child nodes depending on the EV (G-C036, SRT, "Measurement Method"). As far as I understand the current structure the Measurement Method would be identical for all instances of SSDE values (redundancy..?!)
 - IEC demands not only to store the arrays but also the average values of SSDE and WaterEquivalentDiameter. Here I do not see any means to get them into the old structure in a reasonable way.
 - The old structure is rather complex (having all these conditions) and would become even more complex. Another good reason to move away from it.

So I/we would still vote for introducing the new condensed structure (starting from 29b), leaving the old one untouched (for now) and take it out of business later. Would that be acceptable?

By the way, are you aware of any system already implementing/providing the old structure? From recent WG21 meeting I did not get the feeling that this is the case (knowing for sure that not all vendors joined).”

Donald replied, “We understand that the IEC is defining a variation to the method for measuring SSDE, that is why Table CID 10023. Size Specific Dose Estimation Method for CT is extensible, i.e. to accommodate new methods. In Table TID 10013. CT Irradiation Event Data line 30 can have multiple values, e.g. one for SSDE using AAPM 204 method, one using IEC, etc., and the nested criteria below each value given are only required if the method meets the specific code for that method.

We agree that this hierarchical structure using specific method terminology is cumbersome. A more generic encoding of parameters used for each method is a better idea, if it can be created in a truly generic form without knowledge of the future. But having codes using "IEC" in them seems to be just as bad as using "AAPM 204" in the code.”

- Additional notes on CP 1863:
 - WG-02 and WG-28 reviewed CP 1863 and Nick Bevins sent an email to Wim Corbijn which said that WG-02 and WG-28 agrees that the Dose (RP) condition could include an additional condition that the value is not required if the system cannot calculate or measure it.

3. [Supplement 212: XA Protocol Storage](#)

- The supplement **XA Protocol Storage** was presented to WG-06 in January 2019 for First Read. It received Supplement number “212”. **Francisco Sureda** (editor) provided a brief overview of the proposal and presented the outcomes of this review.
- Members reviewed Draft 15 of the supplement and continued updating it to prepare the Public Comments version (saved as Draft 16). It will return to WG-06 for another review in June 2019.
 - The group referred to IEC 62220-1-3 definitions while discussing linear and image independent processing parameters in the Acquisition vs. Reconstruction Protocol Elements section of the Proposal.
- Members continued to define the set of parameters, attributes, and associated details of the XA protocols in Part 3.
 - The group added to the following note to the proposal (in Slide #11 of the PowerPoint): when any LIH or complete Fluoro is stored, a Storage Protocol Element should be pointing to the Acquisition Protocol Element #1.
 - The Storage Parameters (for each Storage Element) was revised to include a proposal for “other parameters on the acquisition or reconstruction elements to be used as matching keys to decided what to store” as well as “processing requirements during the storage (subsampling, cropping, compression, format change, (e.g. JPEG), exporting every two images, etc.)”
 - Members clarified where to put the display/presentation parameters between the “Acquisition” and “Processing” Protocol Elements.
- Meeting participants went through the Changes to the Standard as compared to the CT protocols, as well as the table of contents for this new Supplement.

- The group discussed the “Open issues” questions at the beginning of the text of the new Supplement and the corresponding answers were further clarified.
- No CIDs will be added to Part 16.
- The group decided to leave examples blank in Part 17 to allow for further discussion during the Public Comment period.
- **Action Item (Francisco Sureda):** finalize changes to Draft 17 and circulate to the group for review so that it can be submitted at least two weeks before the DICOM Working Group 06 Meeting in Dublin, Ireland.

4. RDSR Informative Annex (new supplement)

- Members did not review the RDSR Informative Annex at this meeting.

5. Supplement 214: Cone Beam Radiation Dose Structured Reporting

- The supplement **Cone Beam RDSR** was presented to WG-06 in March 2019 for First Read. It received Supplement number “214”. **Nick Bevins** (editor) presented the outcomes of this review.
- Members continued to work on Supplement 214 and its coresponding PowerPoint presentation, which considers an Extended RDSR with the possibility to include CBCT and other modalities as well. The PowerPoint has been updated to discuss implementation strategies of the time window.
- There is a substantial amount of work to be done before the next meeting in Dublin, so the group agreed that a conference call will be held before the Dublin meeting.
 - **Action Item (Shayna):** send a poll to the group for early May to discuss Table D1 before Dublin meeting.

6. Review Current Work Items and Supplements

Members did not review any additional Work Items or Supplements at this meeting.

7. WG-12 Ultrasound New Work Items

- Members did not review at this meeting.

8. Follow –Up Topics

- Members did not review at this meeting.

9. Reports from liaisons with other groups and organizations

- Members did not report at this meeting.

10. New Work Items

- There were no new work items to discuss at this time.

11. Planned Meeting Dates in 2019

Members continued defining the calendar for 2019 and 2020 meetings.

- **June 3-5, 2019** joint WG-02/28 meeting in **Dublin** (RCSI Faculty of Radiologists, main building, 123 St Stephen’s Green, Dublin2, Ireland).

- **October 21-23, 2019** joint WG-02/28 meeting in **Paris**, France.
- **2020 possible meeting locations:** Barcelona, Spain (spring); Vancouver, BC (just before or after the AAPM Annual Meeting); Taormina, Italy (fall).

12. New Business

- The meeting host, Joe Deasy (Memorial Sloan Kettering), asked about DICOM work on structured data reporting and linking structured data between DICOM and other representations. Donald Peck replied that DICOM has already added a method to link structured data between DICOM and other representations [e.g. NCI Annotation and Image Markup (AIM) to and from DICOM SR Measurement Templates]. Donald suggested that a good method to help support the utilization of DICOM is to work with IHE to develop a profile for its use, and that WG-02 and WG-28 can present to IHE that AAPM has interest in providing support to develop this profile. Joe Deasy recommended that his colleague Aditya Apte (apte@mskcc.org) would be a good candidate to help drive this work forward.
 - **Action Item (Francisco Sureda):** ask about the status of this work at the next IHE meeting (April 15-19, 2019 in Rennes, France) and suggest Aditya Apte as a new member.

13. Adjourn

- The meeting was adjourned at 5pm on Wednesday, April 3, 2019.

Submitted by Shayna Knazik, AAPM, Secretary of WG-28

Reviewed by Luiza Kowalczyk, DICOM Secretariat

Reviewed by counsel: Clark Silcox, April 19, 2019.