

MINUTES

Joint meeting of DICOM WG 01 Cardiac & Vascular and DICOM WG-12, Ultrasound

Date and Time: Monday 25 November 2019
 10:00am – 11:30 am US ET

Presiding Officers:

WG-01 User co-chair: Bruce Bray, University of Utah Health
 WG-01 Vendor co-chair: Antje Schroeder, Siemens-Healthineers
 WG-12 User co-chair: Bruce Bray, University of Utah Health
 WG-12 Vendor co-chair: Sander Dekker, Cablon Medical
DICOM Secretariat Lisa Spellman, General Secretary, DICOM

WG1	WG12	Present	First Name	Last Name	Organization	Voting Status
1	12	P	Bruce	Bray	ACC	Voting
1			Paul	Seifert	Agfa	Voting
1			Paul	Varghese	American College of Cardiology	Alt. Voting
1			Peter	Tilkemeier	American Society of Nuclear Cardiology (ASNC)	Voting
	12	P	Kevin	O'Donnell	Canon Medical Systems USA, Inc.	Voting
	12	P	Sander	Dekker	Cablon Medical	Observer
1			Nico	Bruining	European Society of Cardiology	Voting
1		P	Steven	Nichols	GE Healthcare	Voting
	12		Gopi	Pattaswamy	GE Healthcare	Voting
1			Gary	Tearney	Harvard Medical School	Voting
1	12	P	Ravi	Managuli	Hitachi Healthcare Americas	Voting
1			Jon	Elion	Jon Elion	Voting
1		P	Harry	Solomon	Laitek Inc.	Alt. Voting
1			Robert	Steinbrecher	LightLab Imaging, Inc.	Alt. Voting
1			Joel	Friedman	LightLab Imaging, Inc.	Voting
1	12	P	Lisa	Spellman	MITA	Staff
1	12		James	Thomas	Northwestern Memorial Hospital	Observer
1			Ruud	van Silfhout	Philips	Voting
	12		Earl	Canfield	Philips	Alt. Voting

	12		Joe	Luszcz	Philips	Voting
1	12		David	Clunie	PixelMed Publishing	Voting
	12		Allison	Bertrand	Seno Medical Instruments, Inc.	Alt. Voting
	12		Bryan	Clingman	Seno Medical Instruments, Inc.	Voting
1		P	Antje	Schroeder	Siemens Healthcare GmbH	Voting
	12		Jan-Ulco	Kluiwstra	Siemens Healthineers	Voting
1			Stephen	Vastagh	Standards Management Company	Voting
		P	Zeng Fang	Lu	Univerisity of Chicago	Observer
	12		Damien	Lerat	SuperSonic Imagine	Alt. Voting

1. Opening

- 1.1. Open and roll call.
- 1.2. Antitrust and DICOM patent policy review.
- 1.3. Agenda review and approval.
- 1.4. The minutes from 23 September and 28 October were approved with no changes.

2. WG-27 RESTful 3D proposal (10 mins)

- Steve Nichols presented a WG-27 proposal on RESTful 3D which is a proposed extension for DICOM web. WG-27 is in support, WG-06 asked Steve to get additional feedback
- The presentation is in today's meeting folder.
- Notes from Steve
 - Ultrasound Use cases
 - 1) Cine loops
 - a. Existing media functionality is intended to satisfy:
http://dicom.nema.org/medical/dicom/current/output/html/part18.html#sect_8.3.5
 - 2) Real-time monitoring of remote acquisition
 - a. Out of scope for this work item, however RTV, may be a better option:
<https://www.dicomstandard.org/News/progress/docs/sups/sup202.pdf>
 - 3) 3D/4D cardiac
 - a. Useful for 3D Echo, as well as Cardiac CT and MR
 - b. Action: Steve to add 3D echo use case to presentation (attached, see slide 11)
 - Opportunity to promote usage of enhanced US object (on the conversely, lack of enhance US adoption could limit utility of RESTful3D)

Next steps: Please submit any comments to Steven.Nichols@ge.com by 3 January 2020

3. AAPM Quality Assurance Elements status update: (Sander, Harry)

- 3.1. **Pixel Map Analysis, Lead:** Dr. Lu and Harry Solomon.
 - a. CP1975_wg12_Active image region overlay_05 (Harry)
 - **Status update:** Kevin reported that the CPs are progressing
 - **Next Steps:** Once WG-06 approve, CPs go for letter ballot in Jan or March 2020

3.2. **Status: Outcome of call with MITA Ultrasound on 1 October (Sander):** Sander reported the following via email on 2019-11-07 to WG 1/WG12 members:

- *“The MITA Ultrasound Section held an official ballot vote for the PixelMap project. I am happy to inform you that MITA voted in favor of our project! I look forward to discussing what the next steps for this project could be on the next call.”*
- Sander and others are interested to gather target end-user feedback to convince vendors to put this on their product roadmaps and clinical end-users to request. He asked for guidance for how best to move forward and get sufficient feedback on this new proposed feature.
- It was noted that DICOM publish specifications, CPs to the specifications, unless what’s in the Standard is an error. The proposed is not an error, it is a new optional feature.
- Need to see a coordinated industry implementation effort on this, include MITA Ultrasound.
- A past example was given for Radiation Dose Reporting (RDR). Started as a CP, MITA got involved as a trade association, they convened vendors and got them to agree to a date for CT scanners to have RDR available.
- It was noted that it would also be helpful to have guidelines from AAPM to help capture vendor & clinical support.
- **Next steps:**
 - A. Develop a clear value proposition statement and sample use case(s). For example, they briefly discussed that having a clearer pixel map will enable easier use of AI processing, for example, because would make it easier to define area of the map under investigation. If this is the primary use case, this would be a good one, but might not be enough of interest for MITA Ultrasound just yet. This is not yet driving clinical practice today.
 - B. MITA: Propose to MITA staff section leads, starting with Ultrasound. Sander will continue his outreach to Ultrasound section.
 - C. AAPM and other: Dr Lu, Dr Bray, others can help with this.
 - D. It would be helpful to have guideline from AAPM to capture the user side interest.

3.3 Pixel Map Survey update (Harry)

- **Status update:** Need to avoid collecting and sharing data in such a way that strays close to anti-trust. This is related to the previous topic. AAPM Ultrasound Committee is interested in Pixel Map and Transducer.
- **Next steps:**
- The same task must occur – develop a clear value statement to provide to those taking the survey.
- Dr. Lu said she can help from the AAPM side, she and Harry can work on drafting the value statement and she has already added this topic to the agenda for the next AAPM Ultrasound Committee meeting.

3.4 CP1951_wg12_Transducer serial number

- **Lead:** Kevin O’Donnell
- **Status update:** Kevin is working on this CP. Will require someone to type in the serial number or select from a drop-down. There will be a few implementation issues. On the DICOM side, there are a few different places this could go, he will bring up at the next WG-06 meeting.

3.5 Display LUT Status update

- Status: This is on hold until the survey is complete.

3.6 Other tags on the AAPM proposed attributes list

- **Lead:** Sander Dekker, Dr. Lu and others from AAPM
- Status: On hold until Display LUT, PixelMap and Transducer S/N projects have been completed, however, continued research should continue.

Dr Lu gave the following update

- The AAPM Ultrasound Committee made and presented a list to DICOM WG12 a year ago. Great progress has been made. She thanked WG12, particularly Harry Solomon for his help on this task.
- AAPM TG-316 is working to determine methodology for the ultrasound presentation consistency that will need: 1) DICOM GSDF compliant scanner monitors; 2) Digital ultrasound images in P-values to be sent to PACS; 3) Built-in test patterns on ultrasound scanners for performance verification and quality control testing.
- IEC TC87 WG9 plans to add an amendment to IEC/TS62736 that describes testing methods for diagnostic ultrasound imaging systems.
- At the Oct 2019 IEC TC87 WG9 meeting, ultrasound vendors pushed back because the current ultrasound scanner displays were not DICOM GSDF compliant. Will impact their production.
- She received feedback at IEC meeting, only 1/5 vendors in agreement with this commitment
- IEC SC62b WG51 is working on a new technical standard on Medical Imaging Display in General (IEC62563-2) that will set the performance criteria. Ultrasound is one of the modalities and should be included in the consideration of that standard.

– Next Steps

- a) A good value statement would be helpful
- b) A statement that is consumable by end user, the non-technical side of the vendors
- c) Dr Lu will work on value statement and AAPM task group reports and their timeline is to have the reports ready by the end of 2020
- d) Dr. Bray will try to go back and review the presentation
- e) Dr. Lu will create a short version to emphasize the value and a cardiac example

4. 2019 ACC/AHA/ASE Key Data Elements for Transthoracic Echo (Antje, Bruce)

- 2019 update for KDE in echo has now been published:
- <https://www.acc.org/latest-in-cardiology/articles/2019/06/24/16/53/key-data-elements-definitions-for-transthoracic-echocardiography-released>
- Dr. Bray reviewed a spreadsheet of updated elements for potential harmonization with SR elements.

Next steps

- a) Antje will review.
- b) Step 1: Try to create a workable spreadsheet where they can start doing mapping Key Data elements harmonization with DICOM SR
- c) Step 2: comparison, and gap analysis
- d) Step 3: after spreadsheet and gap analysis and then determine approach.

5. Cardiac Strain Structured Reporting status update (Kevin, Bruce)

- Discussion of cross-vendor comparison for Strain to submit as a CP.

<Requested member action>: Dr. Bray encouraged members to review the 4th Measures tab in particular https://docs.google.com/spreadsheets/d/16Ndb_dKIVzYDfEwWHWuAqJr-yvcl2sFYLx65XshJERc/edit?usp=sharing.

- There was a review and discussion

Next steps

- Mock-up for LV and RV and add other key elements
- Define P & R waves
- Dr. Bray & Kevin to get together in January before next tcon
- **Note: Move this topic to earlier in the agenda for the next meeting**

6. Old or New Business

- **New business**: Steve Nichols from WG-27 requested time to present which was accepted. Notes from Steve's presentation are listed earlier in the minutes.

7. Next meetings (Tcons usually 4th Monday of each month, joint WG1/WG12, 10-11am US ET)

Note: A December 2019 tcon will not be held as the 4th Monday will be 30 December, which is a time many people are on holiday. Going earlier would conflict with RSNA19/post-RSNA19, the decision was made to cancel the December tcon.

Monday 20 January 2020, 10-11am US ET

<https://global.gotomeeting.com/join/696028269>

Monday 24 February 2020, 10-11am US ET

<https://global.gotomeeting.com/join/589125261>

F2F: No F2F meetings scheduled at this time.

9. Adjourn

The call adjourned at 10:52am US ET. Report prepared by Lisa Spellman, DICOM General Secretary. Report review by MITA/NEMA legal counsel, Clark Silcox, December 18, 2019.