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MINUTES-v2

DICOM Standard Committee (DSC)

Wednesday 2 October 2019, 0900 – 1600 (Bangkok local time)

Chatrium Hotel Riverside

Secretary's note: Attendance roster was updated between v1 and v2. No other changes were made.

Presiding Officers

Lawrence Tarbox, User Co-chair, University of Arkansas for Medical Sciences
Jeroen Medema, Producer Co-Chair, Philips
Lisa Spellman, DICOM General Secretary, MITA

Voting Members Present	**Represented by**
ADA	Trishul Allareddy
B<>com	Emmanuel Cordonnier
Canon Medical Systems	Kevin O'Donnell
Carl Zeiss Meditec AG	Régis DeShayes
Hologic	Janet Keyes (Phone)
Fairhaven Technologies	Robert Horn (Phone)
FUJIFILM	Masao Murata (Phone)
JIRA	Shinichi Nakano (Phone)
Laitek	Fred Behlen (Phone)
Mayo Clinic	Ken Persons
Philips	Wim Corbijn van Willenswaard
PixelMed	David Clunie
Siemens Healthineers	Antje Schroeder (alt voting)
Univ. of Arkansas for Medical Sciences	Lawrence Tarbox
JIRA	Nakano Shinichi
Voting Members Not Present	**Represented by**
AAPM	Donald Peck (Voting), Nicholas Bevins (Alt Voting)
AAPM	Bruce Curran (Alt Voting)
ACC	Bruce Bray (Voting)
ACR	Charles Kahn (Voting), James Philbin (Alt Voting)
ACVR	Dennis Balance (Voting)
Accuray	Bob Pekarek (Voting)
Agfa Healthcare	Paul Siefert (Voting), Bruno Laffin (Alt Voting)
AAO	Flora Lum (Alt Voting)
AAOMR	Allan Farman (Voting)
AAO	Kirt Simmons (Voting)
ACC	Paul Varghese (Voting)
ACC	John Carrino (Voting)
Brainlab	Christof Schadt (Voting)
Brazil National Institute Science & Technology	Alexandre Savaris (Voting)
Brazil College of Radiology	Alexandra Monteiro (Voting)
Canada Health Infoway	Andrea MacLean (Voting)
Carestream Health	David Foos (Voting)
CFDA	Jia Zheng (Voting)

Change Healthcare	Kinson Ho (Voting)
CIMICS	Jianming Qu (Voting)
College of American Pathologists	Kevin Schap (Alt Voting)
Corista	Eric Wirch (Voting)
Deutsche Ophthalmologische Gesellschaft	Nicole Eter (Voting)
Deutsche Röntgengesellschaft	Elmar Kotter (Voting)
Elekta Inc.	Jim Percy (Voting)
European Fed of Orgs for Medical Physics	Annalisa Trianni (Voting)
European Society of Cardiology	Nico Bruining (Voting)
European Society of Radiology	Peter Mildenberger (Voting)
FDA (US)	Daniel Krainak (Voting)
GE Healthcare	Steven Nichols (Voting), Franciso Sureda (AltVoting)
Hitachi Healthcare	Ravi Managuli (Voting)
IBA	Frederic Dessy (Voting)
India Centre Advanced Computing	Navdeep Kooner (Voting)
JAHIS	Maseo Murata (Voting), K Watanabe (AltVoting)
JSRT	Hiroshi Sakamoto (Voting)
Konica Minolta Americas	Michael Laconti (Voting)
Korean PACS Standards Committee	Hee-Joung Kim (Voting)
Leica Biosystems	Mandel Mickley (ALtVoting)
LOINC	Daniel Vreeman (Voting)
Medical Image Stds Association Taiwan	Chung-Yueh Lien (Voting)
Merge Healthcare	Ronald Cowen (Voting)
MITA	Patrick Hope (Voting)
NCI/CBIT, Leidos Biomedical Research	Ulrike Wagner (Voting)
Pall Corporation	Julian Burke (Voting)
PHC Ltd	Katsyua Watanabe (Voting)
Philips	Jeroen Medema (Voting)
RSNA	Chris Carr (Voting)
Sectra AB	Krister Valtonon (Voting)
Seno Medical Instruments	Bryan Clingman (Voting)
SIIM	Cheryl Kreider Carey (Voting) Paul Nagy (Alt Voting)
Sonic Healthcare	Mike Bettenay (Voting)
Sony Imaging	Michitada Kobayashi (Voting)
Spanish Health Informatics Society	Marcial Garcia Rojo (Voting)
SuperSonic Imaging	Jacques Souquet (Voting)
Varian Medical Systems	Kari Jyrkkala (Voting)
Visus Health IT	Marc Kaemmerer (Voting)
Web3D Consortium	Nicholas Polys (Voting)

Alternate Voting Members, Observers, Guests Present

Mayo Clinic	Fon Ngokkham (Guest)
Mahidol University	Pattanasak Mongkolwat
Mahidol University	Professor Dr. Peter Haddawy (Guest)
Mahidol University	Dr. Wudhichart Sawangphol (Guest)
Philips	Arul Patchi Prasath (Observer)
Raster Images	Suresh Viswanathen (Observer)
SIIM	Kenneth Persons (Observer)

1. **Opening**
   1.1. Open, welcome and roll call.
   1.2. Review of antitrust and patent rules
   1.3. The agenda was approved with no changes.
   1.4. The minutes from Rennes 4 April 2018 were approved with no changes.

2. **DSC Vendor Co-chair election status (Lisa)**
   - The term for the vendor co-chair position currently held by Jeroen Medema, Philips, ends 31 December 2019. A call for nominations was issued 12 August 2019 as well as reminders sent.
   - Two nominations have been received:
   - Jeroen Medema, Philips
     - Because he did more than 50% of the first term, that counted as a 2nd term
   - Brad Genereaux, NVIDIA
     - Need to be a DSC member first when submitting name. NVIDA as an organization needs to first submit member application and sign a patent agreement for the RSNA19 DSC membership.
   - Any nominations from the floor?
     - Not at this time.
     - We will hold off on vendor co-chair for this time
     - Do we need a motion that we are going to delay? No.

3. **Governance and Procedures Task Group status update (Lisa)**
   - The DICOM Governance had not been reviewed and updated for over a decade. A formal Task Group was formed and reviewed the DICOM Governance.
   - A ballot was held, opened 2018-11-19 and closed 2018-12-19.
   - Ballot outcome
     - Affirmative, 28 voted, Negative, 1, Abstain, 3
   - Next steps: Secretariat will
   - Generating a final revision showing the full track-change markup which will be posted. Put the changes accepted version on the website for the 2019 RSNA meeting.

4. **Review:** Basic Requirements of Communication and Conformance for Medical X-ray Image Equipment issued by China Food and Drug Administration (Andreas)
   - As noted in Rennes minutes, there was a request for these documents to be reviewed by WG-06
   - WG-06 sent back to WG-10 and DSC for review and any considerations as needed
   - WG-10 outcome: The documents as we have published them do not contradict, its essentially profiling and explaining how they plan to review products. These are essentially test requirements. Setting up a national conformity assessment program.
   - The documents have been sent to MITA for review and they will continue to track.

5. Items from WG10 meeting held on Mon 30 September, Bangkok

Topics to include:

5.1. WG-05_NWIP_Enhanced_Directory + Shared_Fileset:

- Item was withdrawn by submitter with a request to table item for RSNA19. There are additional notes about this item in the minutes of the 30 September 2019 WG-10 meeting.

5.2. WG-04 Compression update medical requirement for compression. Rennes minutes action 4 & 5 (David)

- No update for this meeting. David indicated that there is no further action. Does not need to be put on the agenda for the next meeting as an open action item. He will continue to monitor.

5.3. ISO RSP: ISO standard that references DICOM.

- Kevin provided a status update and review of document that will be going out for ISO DIS.

<Action item 3 from WG-10 minutes>

3a. Lisa will request the current status, including publication schedule, for the RSP

3b. Kevin requested feedback on the document in today's meeting folder and to be sure to review the levels in X.3. Please send any comments directly to Kevin.

3c. Send to specialty WGs to get input: 09-Opthamology WG-26 Pathology , 22 Dentistry

<Action Item 4 from WG-10 minutes>: Luiza will send email addresses of those WG leadership to Kevin.

6. Items from WG-29 held on Tue 1 Oct.

6.1. DICOM new logo/logo refresh update

- Status update: The decision was taken to not use any of the proposed logos as WG-29 determined that there is not a need for a new logo but did indicate that a refresh is needed.
- WG-29 Action Item: Luiza will provide the current logo to the NEMA/MITA web team or PR firm and ask for a general refresh from a professional, not change the character of the logo, but a slight font and color update that it should match the new DICOM website (colors, font etc.)
- No other topics were presented.

7. New DICOM Membership Applications

- No new membership applications have been received at the time of this agenda posting.
- It was noted that WG-29 discussed enhancing outreach to new prospective members.
- Actions taken thus far include reviewing current member roster for non-DSC members and doing more deliberate outreach in all WGs.
- ***Next steps***: Suggest Secretariat staff check in two times annually with non-members in all WGs to ask them to consider membership.

8. New DICOM Work Item Proposals (NWIP)

NWIP #	WG	Proposal Title	Discussion	Disposition
N/R	5	WG-05_ NWIP_Enhanced_Directory + Shared_Fileset	See minutes from WG-10, 2019-09-30 http://dicom.nema.org/Dicom/minutes/WG-10/	**Outcome:** Based on the feedback from WG-10, the NWIP submitted by Harry Solomon has been withdrawn for this meeting with a request to table for the RSNA19 meeting.

9. **New Workgroup Proposals**
   - No new WG applications have been received at the time of this agenda posting.

10. **Working Group 6 Report**
   - Supplements that have been inactive for more than three years should be revisited with DSC, and possibly considered for cancellation.
   - It was noted that some supplements are taking longer to reach Final Text.

<Action 1> Luiza to contact editors regarding status of inactive supplements and report at the RSNA19 meeting.

11. **Other Working Group Reports**

- It was noted that it would be helpful to have these updated reports posted on DICOM website by about two weeks after the DSC meeting.

WG-01, Cardiology
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-01/
- Meets jointly with WG-12, so please refer to the WG-12 report.

WG-02, Name Projection Radiography and Angiography
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-02/

WG-03, Nuclear Medicine (Dormant)
WG info on DICOM website https://www.dicomstandard.org/wgs/wg-03/

WG-04, Compression (Dormant)
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-04/

WG-05, Exchange Media (Dormant)
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-05/

WG-06, Base Standard
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-06/

WG-07, Radiotherapy
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-07/
- Highlighted that there is new leadership as listed in the report
- There were no questions or discussion.

WG-08, Structured Reporting and Common Data Elements
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-08/
- Essentially no activity underway.
- David indicated some work occurring on prostate reporting, a bit of interest from Siemens
- Emmanuel indicated that a possible NWIP may be submitted to WG-08 for consideration.
- WG-08 had a good meeting at RSNA18, they are not meeting at RSNA2019.

WG-09 Ophthalmology (Dormant)
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-09/

WG-10, Strategic Advisory
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-10/
- See WG-10 minutes

WG-11, Display (Dormant)
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-11/

WG-12, Ultrasound
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-12/

- Meeting jointly with WG-01
- Kevin provided a verbal update on behalf of WG-12.
- There were no questions or discussion.

WG-13, Visible Light
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-13/

- Emmanuel provided a verbal update in addition to the written report and noted that he is retiring November 2019, so a new co-chair will be needed.
- There were no questions or discussion.

WG-14, Security
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-14/

- Lawrence provided a verbal report in addition to the written report, highlighting recent cybersecurity issues managed by WG-14, including the 128-byte preamble issue, the Cylera report and info request from the German Broadcasting/ProPublica request.
- WG-14 would like to be more proactive by creating a set of stories, written in lay terms, ~ 700 words or <, idea is to have these ready responses, turn into multiple stories. In discussion with WG-29, these will go on DICOM website, area TBD whether under security, but as noted, struggling with a lack of volunteers to help with the writing.
- WG-14 is reviewing new NIST Guidance on secure documents
- Would like to create a sample, Secure, RESTful DICOM (similar to what NIST did) in particular, focus on User Authentication (need help from members to write)
- David commented on other hacker attacks and possible remediations that have been in discussion in general HIT community, especially noting the risk is as much for inside staff as outside
- Ken provided a brief overview of security-related special projects underway at Mayo. He noted that strong consistent collaboration between the end user and vendor are necessary. Created a "culture of cooperation" to help bring various stakeholders together.
- WG-14 plans to work closely with WG-29 on education and outreach collaboration.
- Supplement to add examples to Part 17 is underway.
- WG-14 posted the vulnerability report for the CV (Mitre) that manages the CV, is the DSC
- Ad hoc, WG-14 submitted on behalf of DICOM the organization, is the DSC ok with WG-14
- **Motion**
- **For cybersecurity and related issues and requests, WG-14 will take the lead to prepare and submit written responses on behalf of the DSC and notify the DSC through regular reporting channels.**
- Motion made by Kevin O'Donnell, Canon, 2nd by Wim Corbijn Philips
- WG14 is formally authorized to submit VR on behalf of DICOM and report in regular reports
- All in favor, No discussion, No abstention
- **Motion passes**

WG-15, Mammography (Dormant)
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-15/
- Still dormant, but she continues to monitor CPs and
- GE sent notification that they are OK with CP_1880
- There was some limited discussion about future possible work.

WG-16, Magnetic Resonance
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-16/
- Wim provided a verbal report in addition to the written report
- There was some limited discussion about future possible work.

WG-17, 3D
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-17/
- Written report was submitted
- They have requested a test object repository. David commented that these files can be put on the ftp.
- Lisa to follow up with David & WG-17

WG-18, Clinical Trials and Research (Dormant)
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-18/

WG-19, Dermatology
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-19/
- A written report was submitted
- Major challenges: (1) Convincing Dermatologists to leverage an enterprise solution as many vendors provide solutions (albeit some dated) and privacy issues – users do not necessarily want others to be able to easily access the images via PACS, viewers – many prefer to keep separate.
- There was some discussion about how to handle this in an enterprise setting. Ken provided a general overview of how Mayo does this. Work is progressing well

WG-20, Integration of Imaging and Information Systems
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-20/
- Submitted a written report
- New WG leadership
- Participation has been a bit low.

WG-21, Computed Tomography
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-21/
- Submitted a written report. There were no questions or discussion.

WG-22, Dentistry
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-22/
- Submitted a written report
- Trishul Allareddy, ADA, co-chair of WG-22 presented a verbal report
- There were no questions or discussion.

WG-23, Artificial Intelligence and Application Hosting
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-23/

- Submitted a written report and Lawrence provided a verbal update.
- Lawrence reviewed the two pending work items which include performing a gap analysis in use cases
- One of the projects has been merged with IHE project, if IHE publishes, do we still need an informative annex? To be determined.
- The offer was made that WG-23 would be willing to do some of the work for the IHE Profile because there will only be two IHE meetings. Allow them time in WG-23 tcons to deal with the IHE Profile with high degree of WG-23 collaboration.
- Simplified Reporting of AI Results which is not well covered in DICOM Standard. IHE has launched a similar profile for AI Results Reporting.
- Kevin working on a project: Here are the sample kinds of results AI might generate, how put into a report, here is what would appear in JSON Format that David is spearheading.
- Lawrence noted the spreadsheet tool has been useful – might put some of the sample use cases into an informative annex.
- Role of machine learning in modalities – ML usage within a modality is pre-standRD.
- They have people bringing additional ideas.
    - Example: someone that wants to discuss NLP.
    - Example: Training data sets – there currently is not a good way to pull training data sets out of a DICOM archive.
- These projects have been keeping WG-23 busy.
- Other topics have been discussed but tabled for a later time.
- Interesting data point, the SIIM Pneumothorax issued via DICOMweb

WG-24, Surgery (Dormant)
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-24/

WG-25 Veterinary Medicine (Dormant)
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-25/

WG-26, Pathology
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-26/

- Submitted a written report and David gave a brief verbal report.
- They are doing their 6th Connectathon in October, many vendors participating (11) seems to be taking off. Hoped someday that these Connectathons will move into IHE, but no IHE Profile yet.
- Annotations are a big deal in this space. Hard to know if DP will ever take off, VP is weak until ML takes on more mundane tasks – killer application is enabling ML - not just simply replacing microscope.
- These are not Radiology vendors; these are smaller more low-cost devices.
- Question was asked – what's keeping the vendors participating? There is high end user interest but are there enough potential customers. There are competing standards.

WG-27, Web Services for DICOM
WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-27/

- Submitted a written report.
- They are focused on CPs and other cleanup. They have a new co-chair and are following WG-23 work.
- Other discussion about DICOMweb uptake
- Emmanuel reported that uptake in France might accelerate use of DICOMweb through some of their national projects.

WG-28, Physics

WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-28/

- Submitted a written report.

WG-29, Education, Training and Outreach

WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-29/

- Met yesterday, see note.

WG-30, Small Animal

WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-30/

- No written report submitted

WG-31, Conformance

WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-31/

- No written report filed.
- They were reviewing Sup209 drafts with WG-31

WG-32, Neurophysiology Data

WG info on DICOM website: https://www.dicomstandard.org/wgs/wg-32/

- Filed a written report.
- Work is going well.

12. Stakeholder Reports

12.1 Report presented from JIRA which was provided as a written and verbal report.

12.2 Report presented from MISAT which was provided as a written and verbal report.

13. DICOM documents recently updated

- There were no updated documents to review.

14. DICOM website update

- Report was covered in WG-29 and will be noted in WG-29 minutes.

15. New Business

- No new business was presented.

16. Old Business

- No old business was presented.

17. Next Meetings – tcons

18. Next meetings – in person

18.1. RSNA 2019, Chicago, IL USA, 1-6 December 2019

- THUR 5 December 2019, 9am - the decision was made to end at **4pmUS CT.**

18.2 Discuss 2020 DSC possible meeting schedule

- **April/May 2020**
  - Sometime after 27 April 2020
  - **Aim for this window:** 1st two weeks of May 2020
  - Note that week of 4 May several IHE groups may be meeting in Europe
    - Perhaps Porto, Portugal
    - Tallinn, Estonia
    - Prague
    - Poland
  - Two days of meetings for April/May

- India, Bangalore or Chennai - Sept/Oct 2020, try for mid-late Sept or early Oct
- Taiwan: Work with Chung-Yueh Lien - Sept/Oct 2021
- Also check with the person from Brazil from DSC meeting 2018
- Joint Colinista Republica Colinsta Radiology Conference: Regional Society ACR/JPR/RSNA: RAD meeting in Sao Paulo in May 2020 – John Carrino is the contact.
- **RSNA 2020, 29 November - 04 December 2020**

18.3 Discuss 2021 DSC possible meeting schedule

- April/May 2021: See what comes of the 2020 schedule.
- Sept/Oct 2021: See what comes of the 2020 schedule.
- RSNA 2021, 28 November - 03 December 2021

19. Adjournment

The meeting adjourned at 1700 Bangkok time. Report prepared by Lisa Spellman, DICOM General Secretary. Report reviewed by MITA/NEMA legal counsel. CRS, November 1, 2019.