

Minutes

<u>MEETING NAME</u>	WG-10-29	
<u>MEETING PLACE/DIAL IN</u>	Board Room, Intercontinental Chennai, Chennai, India and online	
<u>DATE & TIME</u>	Thursday, October 6, 2023, 9:00AM India Standard Time	
<u>PRESIDING OFFICERS</u>	Jeroen Medema, Philips Lawrence Tarbox, UAMS/AAPM Kevin O'Donnell, Canon Medical Research	
<u>DICOM Staff</u>	Carolyn Hull Shayna Knazik	
<u>VOTING MEMBERS PRESENT</u>	AAPM/Univ. of Arkansas for Medical Sciences Tarbox, Lawrence American Dental Association Allareddy, Trishul NVIDIA Genereaux, Brad Philips Medema, Jeroen Canon Medical Systems USA, Inc. O'Donnell, Kevin JSRT Sakamoto, Hiroshi JIRA Yomoda, Akihiro Siemens Healthineers Nolte, Björn	Click here to enter text.
<u>OTHERS</u>	Siemens Healthineers Schroeder, Antje Alt. Voting	
<u>VOTING MEMBERS ABSENT</u>		

1. **CALL TO ORDER AND REVIEW OF ANTITRUST RULES AND DICOM PATENT POLICY** The meeting was called to order. Members will be reminded of the [Guidelines for Conducting NEMA Meetings](#) and Patent Disclosure Policy: <https://www.dicomstandard.org/patent>.
2. **WELCOME/ATTENDANCE/INTRODUCTION** The attendance was taken.
3. **REVIEW AND APPROVE AGENDA** The agenda was reviewed and approved.
4. **REVIEW MINUTES** - Minutes from the previous meeting were reviewed and approved.

5. WG-10 TOPICS

1. Action items from previous meeting

1. Present DICOM 2040 at DSC meeting

2. **DICOM 2040-** Review of Kevin's research paper. Points of consideration: note animal health. In scope of DICOM, ensure to include "outside" life science topics. Potentially expand scope e.g. BIDS or OMAP. New pharmacy research needs diagnostic imaging and becoming more intertwined, e.g. Research is another important consideration for the future of DICOM. We will exclude DICOS in this.

Unified patient record—imaging for patient communication- note that these might go together.

Home health- discussion of this section- adding in topics, making edits. User authentication, e.g.

One member also noted to look at Sync for Science – a US initiative by HL7; struggled with DICOM data to include in EMRs.

Relationships- are there others we should build upon, e.g. IHE, OMAP/OHDSI.

Are there features we have that should be considered when moving to FHIR? E.g. worklist. How much to indicate that MWL is something to consider.

DICOM and the open source community- should we help facilitate their work? Should we suggest directions and needs?

HTTP to gRPC layer- next layer. People are moving to gRPC layer-bulk transfer on the Internet. Google Healthcare API has implemented. Netflix and others use this for large data. Enhanced CT and MR could be used for this, video also.

Future DICOM engineers- create templates, e.g.

Considerations: If one needs to find a referring physician, where does it fit for this modality?

- Consider all the rules of DICOM more homogeneously, especially for those with less experience.
- Requirements in the standard for conformance, and then where do I look for certain pieces of information, e.g.
- How to make it easier to navigate.
- Suggestion to add convenience checkers, tools for people using. Sample codes, e.g.

Contacting outside groups

- Contact points to get their input. How can we capture the common problems from others? Ebook-DICOM WG . Philips cookbook, e.g. common use case.

- Note we may consider an overview/e-book standard for a first read for newer users/developers
- Innolitics navigation. Entry point for navigation is important.
- There is a tool to help model FHIR- Forge, company called Firely. Have a wishlist of if this tool would be helpful. We could keep a wishlist like that and share with universities, etc. Consider more of a strategy of tools that people might want to use if exists, project place, e.g.

Regulations/reimbursement

- Regulations/reimbursement- is it advisable for us to engage more in regulations that there are things in the standard we would like to regulate more/less. Do we want to monitor. Are there things that we say this is a good subject to regulate? This is good for humanity if these parts of the standard.
- Reimbursement- if we want things to take on, “if” they are reimbursed, that is a way to reimburse them. Look at level of coordination.
- Have an intro/hidden/encoded model that could be fed to an LLM, e.g. making it DICOM more user-friendly.

Added additional questions at the end:

<https://drive.google.com/drive/folders/1BV0wl5ZHoeHL-WeB8IBiO3WUGWmDa9xh>

1. **Discuss how to get feedback on this document/overall structure-** How to work on this going forward? Will need some tcons on the books. Could “farm out” sections and then redo. Want to do a public comment after this.
 1. **Action:** Carolyn, send Doodle for monthly meetings- monthly for now, start with an hour. Leave out Friday mornings if possible.
 1. During calls, start with sessions- broad themes, then become more targeted.
 2. Contact other WGs – schedule an email to ask to put “wish list” generation to capture their needs. Does not include current work items or thoughts. We want to capture consider within the scope of their WG. Also, items that aren’t in their scope but someone should do something.
 3. What is the aim for this document? Goal to produce a whitepaper, then WG-10 will have done its job. Phase 2: discussing DSC the discuss actions we want to initiate on these. Trends and needs are essentially noting “someone” should do this and ensuring that DICOM is ready for these. Hopefully vendors use this. Could also serve as a “guidance” document for DICOM Working Groups.

2. Separate thought: Are there technologies, e.g. application hosting that did not work and are there things we should remove, e.g. DHPC.
3. **SWOT**- Review and discuss BIDS threat

1. NIFTI and BIDS as a threat to DICOM- they do not want DICOM or DICOMweb because they believe it was too confusing. They developed tools that would convert DICOM files to BIDS with NIFTI. In the process, found things that were incompletely described. They wanted to have a joint meeting with DICOM to resolve the issues.

Question as to “is BIDS a threat” or an opportunity, etc. We were not meeting their needs with DICOMweb.

They want one or two pieces of metadata.

Is an initiative that is a threat to us? Are there things that we should be differently as DICOM? A potential area of growth could be going after the research community.

In WG-23, they are making it easier for AI researchers to bring applications to market. They want a way to get to “the stuff” but not learn DICOM inside and out. Almost all AI pipelines include changing to NIFTI.

One member suggested adding in another transfer that is a Numpy array. Allow people to ask for data in whatever format. What is the danger there? Give the jpeg png options, can give back a raw binary instance. Make it easier for novice people to get involved. Let the backend server do the conversion.

Research Discussion

- Would forming a research WG under DICOM be good to have a “home” to voice what they would like w/Secretariat MICCAI (?).
- Structuring DICOM in terms of layers so that semantic issues are covered so that a newbie. First layer, easy to use, then can get in.
- Tooling in PyDICOM. DICOM for the BIDS developer whitepaper.
- Consider if new things pop up, engage with them. A first step could be a workshop. DICOM for researchers workshop. MICCAI- use challenges. (Medical Imaging Computing and...), NVIDIA and try to work through. Schedule “what would you like to think of that” MICCAI- a community that holds annual events that is aimed towards medical imaging researchers. Automatic analysis. Include SNMMI as well.

Action: Set up a Birds of a Feather-type meeting at RSNA group to discuss whether to have a workshop. Another possible venue MIDRIC (jointly by RSNA and AAPM), MIDL (medical imaging with deep learning), Project Week- under a grant, NAMIC. There are some sections of the 2040 report we’d want to discuss. Send targeted invitations to MIDRIC, MIDL, Project Week, NAMIC. Suggestion

that we'd want to discuss the needs in the research community and possibly hold a workshop.

6. **Lunch**

7. **WG-29 TOPICS**

1. Minutes from May 15 approved.
2. Discuss audience/messaging (who are users we want to identify) to relay following items from previous calls to. Draft one-page "What is DICOM" document as a first start.

Ideas previously drafted to begin after the above is decided:

Audience: new developer- what is the takeaway action?

1. Messaging-3 messages re: DICOM (misperception, hot topic -finalized in DICOM, some may implementing, and success story- some vendors have solutions available and some users have implemented with good results)
 1. First three ideas (every four-six months)
 2. New conformance statement- (hot topic)- People who write vs. readers- Creators of the conformance statement: developer lead or product manager at write a new conformance statement.
 3. Researcher-
 4. DICOMweb- (success story)
 5. DICOM is insecure (misperception)-
 6. Second three ideas
 1. Multiframe objects – can ignore dimension metadata and can't mix with singleframe in a PACS (misperception)
 2. Digital pathology (hot topic/success story)
 3. FHIR instead of DICOM (misperception) AND FHIR/DICOM (hot topic)
 4. PACS migration (hot topic)

Next steps: Communicate back to them if they're what they're looking for this. Have another WG-29 meeting to see who would draft these.

Doodle- week after next set something up.

3. DICOM Tools- replacement for FTP-
 1. TBD- Git discussion **Action:** Check in with Rob Horn on GitHub. Sub working group that meets to talk about tooling. Carolyn – set this up.
4. Upcoming Conferences:
 1. ICC- in Vegas, lots of AI-related. First or second January. DICOM track or presentation. Abstract submission section.
 2. Indian Radiology Association- early January.

Suggestion to also present the previously discussed topics at some of these conferences.

Where to present?

Where are places we haven't been yet? Do we want to do a conference every year or every two years? Many were on request/demand.

8. **OLD BUSINESS**

9. **NEW BUSINESS**

10. **ADJOURN- 5:20PM IST**

11. **DATE AND TIME OF NEXT MEETING**

Action: Set up SPA meeting.

Action: Meet monthly again as WG-29 to draft articles. Doodle poll for the first one and then we can see possibilities for upcoming meetings after.

Reviewed
12/8/2023 kfrm