

MINUTES

HYBRID IN-PERSON/VIRTUAL JOINT MEETING OF WORKING GROUP TEN (WG-10) (Strategic Advisory) WORKING GROUP TWENTY-NINE (WG-29) (Education, Communication, and Outreach)

Logistics: **March 4, 2024 ; 9:00am - 5:00pm UTC +1**
University of Applied Sciences
Technikum Wien – Main Campus Höchstädtplatz
Höchstädtplatz 6, 1200 Wien, Austria

Presiding Officers: Kevin O’Donnell (WG-10 Chair)
Jeroen Medema (WG-29 Co-Chair)
Lawrence Tarbox (WG-29 Co-Chair)

Secretariat: Shayna Knazik (NEMA/MITA)

Voting Members Present

| | |
|---|------------------------------|
| AAPM/Univ. of Arkansas for Medical Sciences | Lawrence Tarbox |
| Canon Medical Systems USA | Kevin O’Donnell |
| Carl Zeiss Meditec | Alagappan Arumugam |
| GE HealthCare | Steve Nichols |
| JIRA | Akihiro Yomoda |
| JRST | Hiroshi Sakamoto |
| Laitek | Fred Behlen |
| NEMA/MITA | Shayna Knazik |
| Philips | Jeroen Medema |
| PixelMed | David Clunie |
| Siemens Healthineers | Björn Nolte, Alt. Voting |
| Siemens Healthineers | Antje Schroeder, Alt. Voting |
| VISUS Health IT | Marc Kämmerer |

Observers Present:

| | |
|----------------------------------|---------------------|
| ACR | Brian Bialecki |
| ADA | Trishul Allareddy |
| Agfa HealthCare | Bruno Laffin |
| AWS | Chris Hafey |
| Brainlab | Christof Schadt |
| CompuGroup Medical | Christoph Unfried |
| DICOM Usergroup Austria | Emmanuel Helm |
| DICOM Usergroup Austria | Silvia Winkler |
| ESR | Annalisa Trianni |
| evosoft | Krisztián Mendei |
| GE Healthcare/IHE Europe | János Vincze |
| Mayo Clinic | Nicholas Charboneau |
| MedicalCommunications | Wolfgang Schultz |
| Ministry of Health, Saudi Arabia | Monief Eid |
| Ministry of Health, Saudi Arabia | Sami Ismail |
| NEMA | Karin Moore |
| NVIDIA | Brad Generaux |
| Radical Imaging | Bill Wallace |
| Raster Images | Suresh Viswanathan |
| Siemens Healthineers | Levente Boda |
| Siemens Healthineers | Till Hoenig |
| Siemens Healthineers | Dieter Krotz |
| Siemens Healthineers | Miklós Muhi |

1. Administrative Items

- The WG-10/WG-29 meeting was called to order at 9:04am UTC+1 and a quorum was present.
- Staff reminded members of the [Guidelines for Conducting NEMA Meetings](#) and DICOM Patent Disclosure Policy: <https://www.dicomstandard.org/patent>
- Thank you very much to our hosts, DICOM Usergroup Austria!
- Meeting participants introduced themselves.
- The agenda was reviewed.
- The previous meeting minutes from October 2023 were reviewed and approved.

2. WG-10 topics from last meeting in Chennai

- DICOM 2040: this item was the catalyst to DICOM 4 discussions so no longer needs to be discussed.
- SWOT
- Whitepaper/posts re: DICOM and FHIR

3. WG-29 topics from last meeting in Chennai

- DICOM Tools- replacement for FTP
- Upcoming Conferences

- Every 1-2 years, so the next one could be 2025 or 2026
- The group discussed that sometimes these are attached to DICOM Standard Committee meetings. We have an invitation from JIRA to host the fall DSC meeting in Japan. We could hold a 1-2 session seminar rather than hold a 3-day conference.
- Question to Japanese participants online: early September: would there be a topic or theme where it would be useful to hold a lecture-style room. This is at the discretion of the hosts and their local participants.
- **Action:** JIRA/JAHIS to consider if they'd like to hold a half or full day of discussion seminars.
- Messaging: every 4-6 months putting out an article. Potential article categories/topics:
 - DICOMweb success story
 - Hot Topics (like the new DICOM Conformance Statement)
 - Recently finalized in DICOM
 - Misperception that DICOM is insecure
- The group discussed DICOM security and implementations issues. SIIM is planning some learning labs for security, many focusing on what the institutions need to do to implement security. DICOM isn't the only security tool/internal procedures that the institution needs to use. It would be great to leverage SIIM.
 - What are the distribution restrictions on the material SIIM is preparing?
 - Does it really change from single digit to 90%? Would be helpful to look to TLS for implementation advice.
 - Medical IT department whitepaper/cookbook recipe page which could then be folded into SIIM material. Could also be considered for a new IHE profile.
 - <https://blog.heckel.io/2018/08/05/issuing-lets-encrypt-certificates-for-65000-internal-servers/>
 - Why don't people use DICOM security? Single digits in terms of enabling it. Most devices and systems can support this, but work needs to be put in to set it up. Major hospitals have big IT departments, but smaller hospitals do not have that luxury.
 - SIIM interest- this year SIIM picked 4 themes: framing cybersecurity is one of their priorities for this year, so the timing is good for us to work on it.
 - Defining how to take an old, non-secure device and connect those into the system.
 - Possible items for success stories:
 1. Connectathons
 2. Mayo Clinic
 3. WG-26
 4. Digital Pathology Association (DPA) who has started working with SIIM on DICOM
 5. DICOMweb + digital pathology (a good one would be Austria's ELGA)
 6. FHIR & DICOM and who should be doing what? Perception that DICOM is "old" and FHIR is "new" ...need to clarify that they are complementary. In terms of external communication, FHIR is extremely effective and could be used to see how we should communicate more effectively, particularly to

non-technical people. A Ven diagram to clarify what FHIR is for and what DICOM is for and how they work together would be helpful.

7. PACS migrations and the new Supplement on the Inventory Object Infrastructure

- **Creating a cookbook/recipe formula/e-magazine** that people could use to secure their institutions. This could be built out on monthly WG-29 teleconferences, but ideas included an e-magazine/publication every 6 months or so with 2-3 articles and maybe some WG-06 updates, hints and tricks type of articles, ask the editor feature. The intended audience is fairly broad and will vary a bit based on the topic, but it includes all stakeholders (vendors, clinicians/users). Utilizing the DICOM mailing list, LinkedIn, and potentially SIIM and other organizations like RSNA/similar groups in Asia and Europe to get it out. The group discussed implications of joint publishing versus or providing other organizations with distribution rights, and agreed the preferred path would be to link to our publication to avoid issues with other organization's established communication routes that could be limited to paying members. Connecting with the IHE Connectathons could be helpful. The style/format could be closer to a "NEMA SmartBrief" if we didn't want a full e-magazine style. Kevin asked Antje if the DICOM Conformance Statement would be a nice first topic. They could potentially address problems with vendors not wanting to pay to implement the new conformance statement, focus on the summary table, and request feedback. WG-31 may want to consider holding a call to gauge interest regarding engaging with some vendors and understand some of the issues and gaps. User feedback is necessary to figure out the next steps with the new DICOM Conformance Statement. One possibility would be to canvas the vendors first and then take that to users. **Action:** Antje and Jeroen will discuss WG-31 approach.

1. DICOM needs a communication plan

a. LinkedIn needs to be leveraged

i. Creating a new, official DICOM page

b. NEMA's publishing arm should be leveraged to push this out but with the clear message that it's not an academic journal, it's intended as a marketing and educational tool, so we don't lose the DICOM branding content.

4. [Host Presentation](#)

- DICOM Usergroup Austria shared two presentations (located on FTP in today's folder) on their national electronic health record ELGA and the integration of images.

5. [LUNCH 12:00-1:00pm](#)

6. DICOM 4

- The group spent the afternoon editing Kevin O'Donnell's PowerPoint in preparation for presentation to the DSC tomorrow afternoon. See presentation for details (located on the FTP under WG-10 and WG-29).
- It was noted that we will need periodic "summits" to help WG's, stakeholder groups, etc. to sync up, weigh in, and contribute.

7. Future Meeting Dates

- Summer/Fall 2024: Tokyo, Japan kindly hosted by JIRA/JAHIS. Shayna will circulate a calendar appointment once the date is settled.

8. New/Old Business

- None at this time

9. Adjournment

- The meeting was adjourned at 5:07pm UTC+1 on March 4, 2024.

10. Group Dinner (7:00pm)

- Lugeck in the City Center (address is Lugeck 4 in 1010 Vienna)

Chat transcript:

14:32

Lawrence Tarbox to Everyone

The open source matching service I mentioned is called "Moment". We have been talking with Aristana Scourtas . They are particularly interest in scientific research. This is a link to a slide deck that describes their

program: [https://urldefense.com/v3/_https://docs.google.com/presentation/d/1-znSB19EoKKpeQu7H9HI0DgnskW2bozSY3ST-Ve-GcY/edit?usp=sharing ;!!BpyFHLRN4TMTrA!4s7rEnPgB5IkSyDiYWGqF2VTUpl_ugIESuCIMG-JbCw26vdHecWuZ3J2Sr2hbf_NgW0U28PQkWQ48rpW9BeQk-xP7B1d4M\\$](https://urldefense.com/v3/_https://docs.google.com/presentation/d/1-znSB19EoKKpeQu7H9HI0DgnskW2bozSY3ST-Ve-GcY/edit?usp=sharing ;!!BpyFHLRN4TMTrA!4s7rEnPgB5IkSyDiYWGqF2VTUpl_ugIESuCIMG-JbCw26vdHecWuZ3J2Sr2hbf_NgW0U28PQkWQ48rpW9BeQk-xP7B1d4M$)

14:33

Jeroen Medema (Philips) to Everyone

https://docs.google.com/presentation/d/1-znSB19EoKKpeQu7H9HI0DgnskW2bozSY3ST-Ve-GcY/edit#slide=id.g2ad06c7ce56_0_68

14:33

Lawrence Tarbox to Everyone

https://docs.google.com/presentation/d/1-znSB19EoKKpeQu7H9HI0DgnskW2bozSY3ST-Ve-GcY/edit#slide=id.g2ad06c7ce56_0_0

14:40

Meeting Room to Everyone

Breaking for 20 minutes

15:30

Brad Genereaux to Everyone

The 555 rule for APIs: 5 seconds to find documentation, 5 minutes to a Hello World, 5 hours to a working prototype

15:32

Jeroen Medema (Philips) to Everyone

Not that many APIs that work that way. Apparently no 555-police ;-)

16:25

Jonathan Whitby (Canon) to Everyone

The lack of a good DICOMweb implementation guide has been one issue.

16:33

Jonathan Whitby (Canon) to Everyone

I don't think anyone wants FHIR to replace DICOM for imaging.

16:34

Jeroen Medema (Philips) to Everyone

Indeed. But searching using FHIR ImagingStudy instead of QIDO is what is seen in several areas.

16:35

Jonathan Whitby (Canon) to Everyone

Indeed. And FHIR ImagingStudy deliberately mirrors QIDO.

16:37

Meeting Room to Everyone

Motion to table discussion of DICOM 4 until there's a more pressing use case, and in the meantime, DSC will task WG-10 with developing a roadmap for addressing the motivators within the context of DICOM 3.

Marc Kämmerer (VISUS)

Hi Shayna, this is the link to the article I was referring to ->

<https://blog.heckel.io/2018/08/05/issuing-lets-encrypt-certificates-for-65000-internal->

[servers/](#)

Brian Bialecki (ACR)

DICOM 4 seems driven primarily by consumer or after production use cases. I would prefer see a comparison of DICOM 4 to DICOMweb 2.0 where producers could claim they produce DICOMweb 2.0 compliant objects i.e. type 3 attributes available. Also, I see DICOM 4 as disruptive and breaking to DICOM and potentially more controversial than MINT was, yet there is no discussion on why MINT failed and how this is different?

Kevin O'Donnell (Canon)

https://docs.google.com/document/d/1-sysY9-dNH4bfq_CPPA7mvaWIMISStMFU/edit?usp=sharing&oid=116560093009053939444&rtpof=true&sd=true

Hafey, Chris (AWS)

"Be mindful of breaking changes"

David Clunie

Reference for "first hop pinciple" mentioned - 1. Bidgood W, alSafadi Y, Tucker M, Prior F, Hagan G, Mattison JE. The role of digital imaging and communications in medicine in an

evolving healthcare computing environment: The model is the Message. J Digit Imaging. 1998 Feb 1;11(1):1-9. doi:10.1007/BF03168720

Hafey, Chris (AWS)

CORBA... now that is a name I haven't heard in a long time

Hafey, Chris (AWS)

I have talked with customers that have over 50 copies of new studies distributed across different systems!

Bill Wallace (Radical Imaging)

There is a massively successful distributed system that is commercially used - that is git, and I think it is git we need to model for study storage and not block chain

Hafey, Chris (AWS)

the enabling technology behind distributed systems is the cryptographic hash - git, blockain, ipfs, etc

Hafey, Chris (AWS)

let me be clear - I am NOT advocating for blockchain, I was just saying it was ONE example of how this problem was solved. Its the crypto hash that is important

Hafey, Chris (AWS)

short size for rows/columns

Hafey, Chris (AWS)

async/parallel instead of sync/serial

Lawrence Tarbox

@Brian, I would not say that MINT was a total failure. It did trigger a deep discussion in DICOM, triggered the formation of a working group and generated several supplements. So while MINT itself did not catch on, many key ideas got incorporated into DICOM. And now, the work item proposal that triggered the DICOM 4 discussion actually was one of the

features of MINT that was dropped when the MINT ideas were incorporated (assimilated?) into DICOM.

Lawrence Tarbox

"de-duplication and normalization" (not chunking)

Hafey, Chris (AWS)

all of these things are connected

Hafey, Chris (AWS)

"Prefetching should not be required for acceptable performance"

Jeroen Medema (Philips)

I'd counter the previous statement regarding prefetching with: one cannot do without prefetching, as objects are getting larger (i.e. huge), and will continue to do so.

János Vincze (GE HealthCare)

Videos are also getting larger, but today streaming does not require prefetching.

Jeroen Medema (Philips)

But if one is in need of the entire video, for instance for viewing offline, there is the need for prefetching (called: download). Next to that, for videos it is known what is needed next, there is buffering in place, lossless is acceptable, etc.

Hafey, Chris (AWS)

"Approachability"?

Brad Genereaux (NVIDIA)

Good afternoon - I haven't been here for the whole conversation; I saw that the title was turned to "Development Costs". I thought part of why this motivator was happening was because - flagged many times across many WG reports across many DSCs - that there are

not enough participation - possibly due to the "arcane". DICOM 4, I saw, could be a way to engage more with the developer community.

Hafey, Chris (AWS)

https://en.wikipedia.org/wiki/Secure_by_design

Hafey, Chris (AWS)

I saw a studyId the other day with a patients name in it

Hafey, Chris (AWS)

it was longer than 16 characters too :)

Brad Genereaux (NVIDIA)

Making mandatory security might also complicate developer experiences (e.g., does every developer need to have a certificate while they are building software?).

Brad Genereaux (NVIDIA)

There are interesting concepts on the FHIR side, like "security labels".

<https://www.hl7.org/fhir/secpriv-module.html>

Brad Genereaux (NVIDIA)

Would you include a question in the WG reports for the next DSC? Do WGs need to file their own "work item proposal" to do work or is that dovetailed in? Do some of the WGs that are currently inactive - do they need to get activated to do some work?

Brad Genereaux (NVIDIA)

Would you take the list of WGs, and ask them questions relating to the development of DICOM4? Eg what would you ask the migration WG? the small animal WG? the compression WG? cardiology WG? etc etc

Brad Genereaux (NVIDIA)

"Some work farmed out" - what I'm very curious on the mechanism in which you farm :)

Brad Genereaux (NVIDIA)

Imagine, eg the "dermatology WG" might decide - no, the community isn't ready to move to DICOM4 and they'll all keep using DICOM3. Does that stop the overall process? I don't think so!

Jeroen Medema (Philips)

Please add DICOMweb 2.0 to the D4 vs D3.5 vs D3 line. That has been mentioned before and might still be a direction.

Bill Wallace (Radical Imaging)

What about a NWIP to create a potential design proposal, and then DSC to think about it for a while, and WG-10 to talk more about the proposal at the next DSC