

MINUTES

MEETING NAME 09-WG33: WG-33 Data Archive and Management

MEETING PLACE/DIAL IN

DATE & TIME Wednesday, April 29, 2020 | 11:00 am – 12:30 pm US ET

PRESIDING OFFICERS Matthew Bishop, UnityPoint Health
Keith Eklund, Healthcare Tech Solutions

VOTING MEMBERS PRESENT

Ambra Health	Ostrow, Daniel
Argentix Informatics	Silver, Elliot
Canon Medical Research USA Inc	O'Donnell, Kevin
Change Healthcare	Ho, Kinson
DesAcc EMEA Ltd	King, Graham
European Society of Radiology (ESR)	Mildenberger, Peter
GE Healthcare	Nichols, Steven
Grafimedia	Georgiadis, Pantelis
Healthcare Tech Solutions, LLC	Eklund, Keith
Laitek, Inc.	Costea-Barluti, Razvan
Laitek, Inc.	Solomon, Harry
Mayo Clinic	Persons, Kenneth
MITA	Hull, Carolyn
PixelMed Publishing	Clunie, David
Society for Imaging Informatics in Medicine	Bishop, Matthew
Laitek, Inc.	Brown, Barry
Society for Imaging Informatics in Medicine	Carey, Cheryl
Society for Imaging Informatics	Henson, Kyle

In Medicine
Vital Images, Inc. Dawson, Tim
Vital Images, Inc. Whitby, Jonathan

OTHERS

Allscripts Challenger, Michael
CitiusTech Healthcare Mahalle, Prashant
Technology LTD
DeJarnette Research Wineke, Steve
Systems
Hyland Software, Inc. Ullrich, Mike
Laitek, Inc. Behlen, Fred
London Health Science Aizawa, Luiz
Center
Mega Informatica Ltd Fauquex, Jacques
Ministry of Health Eid, Monief
Ochsner Health System Hayes, Matt
Sygehus Lillebælt Hansen, Peer Møller

VOTING
MEMBERS
ABSENT

AAPM Bevins, Nicholas
AAPM Knazik, Shayna
GE Healthcare Numan, Jouke
Varian Medical Systems, Inc. Schwere, Thomas
Laitek, Inc. Sluis, Douglas
Mach7 Technologies Ulanov, Alexey

DICOM
SECRETARIAT

Anna Zawacki, SIIM

**1 CALL TO ORDER AND REVIEW OF ANTI-TRUST RULES AND DICOM
PATENT POLICY (Co-Chairs, Secretariat)**

The meeting was called to order. Guidelines for Conducting NEMA Meetings were read and attendance was recorded.

2 REVIEW AND APPROVE AGENDA (Co-Chairs)

The agenda was reviewed.

3 REVIEW MINUTES (Co-Chairs)

The minutes of the previous meeting were reviewed and approved with 2 edits.

4 TOPIC ITEMS TO BE DISCUSSED (All)

- Possible Technical Approaches
 - Continue the discussion
 - Collectively work on a list of “issues”

Discuss Issues

- Define the issue(s) that need to be addressed
 - Are the standards sufficient today to address the issue?
 - If not, why not, and where is the deficiency from a standards perspective
- Define work-arounds or approaches currently in place to address the issue(s)
- Define possible solution path(s)
 - Can the solution be implemented optimally or efficiently with the current standards?
 - Does the solution require a new or modified standard? to facilitate the solution or to enable interoperability
 - If appropriate, how could/would a standard aid in the solution or facilitate interoperability

Define Terminology

- As it applies to DICOM and this use case
 - Define data archiving
 - Define data management
 - Define migration

Define migration should be bumped to the top.

Migration – forklift move of data form one app to another, or consolidation of multiple apps. How do you move your data into the cloud or into another storage system, seamlessly?

2 reasons more general discussion about migrations arose:

1. Migrating what to what? Both now and in the future.

2. Original proposal talked about gaining access to original information at a sub-standard interface level, at a file share level, in doing so it raised a question of is that how objects are actually stored in the PACS now and in the future?

Fundamental issue - You can't define migration without defining access to data at the source and the sync.

As a bulk thing, migration is one thing and there is another area of migration where it's making data available, maybe not by moving it, but by giving access to it or moving it from storage to storage or from app to app.

At what point is the data that we are migrating useful?

Is the data useful alone if we moved just it, does it require some all of the metadata before it's useful? Is migrating the metadata a second migratory entity?

Metadata needs to be updated with the bulk data.

Maybe our target is to figure out what a standardized way of metadata representation is?

Maybe we are talking about a query here or a series of queries.

Give me your metadata - don't we have that essentially in a C find? Do we have to expand the C-find?

Which hand is driving?

Need to be specific on what we are trying to accomplish. If problem #1 is vendors and users want access to metadata? Or methods to get to metadata without having to get the source vendor involved in to deep of a level? And we can drive from there.

Isn't it possible to retrieve metadata using DICOMweb, WADO, QIDO?

Problem the migration advocates have is:

1. The archived objects stored and filed have not been updated so the metadata is stale
2. There is no standard interface to the database that has fairly rich metadata that overwrites metadata in the image object

3. They claim that using C-find or QIDO to retrieve the object with the metadata recreated is too slow – that's an implementation problem not the standards problem, but it is a real problem.

We should narrow our problem to deciding: Do we want to deal with that in a standard way which leads to the question – is there a separate set of updated metadata to be applied to the files such as if you applied it then the files would be correct?

What do we mean by metadata? It's metadata that is in the DICOM object that has been extracted into a database and not sorts of additional metadata.

Need to clearly distinguish metadata:

- Metadata in the DICOM object
- Metadata separate from the DICOM data model

Are we dealing with the stale DICOM object not updated with its own metadata problem or are we dealing or metadata of all fancy kinds that may or may not be relevant to a new deployment?

We must agree that research is completely out of scope. DICOM rules are thrown out when you do research.

The data in an ordinary PACS for clinical use is within scope.

Some people may be interested in migrating change history.

Difference in information models between the sending and receiving end.

Just copying the data and sending it may not work, because what you already have may be not good. And you can't just fix it up and send it, you have to copy it, then fix it and then send it. So, migrating data is an opportunity to clean up, before you do the migration.

Don't make things too ambitious but make them sufficient enough to handle various real-world use cases.

Important to distinguish the external view of the study and the internal view. External – how other systems see the data. Internally – the system may manage multiple views or multiple versions and may optimize them. Not mix between the two.

Missing – metadata has no reference where you are expecting to get the object, from migration perspective if you get metadata and file separately, you don't have strong reference to where the object you are going to get and that's missing. In C-find or KEDO

it is catered for individual object access. – Reference to WG-33 External View powerpoint from Kinson Ho.

Simplifying assumption - This separate metadata is exactly what you'll get with C-find or QIDO etc. if you actually retrieve the object from the live source environment.

There are scenarios on the internal object that you could potentially get multiple metadata sets through multiple C-finds or QIDOS especially if they reference whatever the backing object happens to be. In essence different sources with access to the same backing object will represent the data differently.

Which view are you going to externalize based on who the recipient is?

When this workgroup began, we were given a proposal to consider. Are we going to respond to it? Do we have to consider the proposal and bring it to closure? Or do we want to evolve and expand on it?

If we could get the source system to send out good DICOM object with good metadata fast enough to satisfy the recipient, we would not be having this conversation. We have to ask the question, why can't existing systems do that. they were not designed to do it. we are asking them to do something new.

Across customer base, we get hundreds of thousands of requests a month to update some patient info, whether it would be a middle initial, new address, etc.

When you do a large VNA implementation across multiple hospitals you want some consistency. A lot of times there will be an order merge to make sure it's consistent. High % of small changes to data on a large % of DICOM objects.

Another use case is an upgrade from the same vendor.

The reason historically upgrading the backing archive and the application layer has happened in concert is because enterprises try hard to get the lifecycle of those things to line up and also because it has been impractical or impossible to do otherwise.

In the context of migration, if there is an efficient way to get all of the up to date metadata along with all the objects – missing – the way to re-combine them reliably. Combine metadata update to the object before we do the migration, that takes a lot of time.

If we go along with the external view and if the view has the stronger link to the objects, it gives us the ability on the receiving side to recombine the metadata and the objects without forcing to recombine them before the migration happens.

Missing today is the link between metadata and the object.

Gives enough information but not the implementation.

If you point to the DICOM object on disc in the metadata itself then the sync system it can then say here is the subset of metadata that is an override of some nature to this DICOM object which happens to be stored system and the sync system can reconcile that however it wants to.

If metadata has reference to the backing object and if the source system already deleted the object, then migration can do no magic, but you still have some tracking record.

Gives you enough info that the receiving side can do whatever thinks is best with it, rather than imposing a specific implementation.

Be able to port what you did with IOCM KOSes and whether or not they will be included in the migration is an interesting question we should analyze for possible inclusion in the standard.

IOCM KOSes are persistent objects themselves, which may or may not be stored. In case of archive migrations maybe it should be the case.

Trying to capture the semantics, not the architecture that it uses.

5 OLD BUSINESS

6 NEW BUSINESS

7 DATE AND TIME OF NEXT MEETINGS (Secretariat)

- T-con meetings every 2 weeks at first until end of June, then possibly change to monthly
- Next call is May 13, 2020 at 11:00 am ET
- SIIM 2020 Annual Meeting has gone virtual, thus we will not be able to host an in-person meeting in Austin, TX this year.

Reviewed by counsel: CRS, May 10, 2020.

<u>NEMALINK CODE</u>	09-WG33
<u>SUBMITTED BY</u>	Hull, Carolyn
<u>SUBMITTED ON</u>	5/10/2020
<u>LEGAL APPROVAL</u>	CRS, May 10, 2020.
<u>UPLOAD LOCATION</u>	Enter upload location.