

# MINUTES

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

**MEETING PLACE/DIAL IN**

**DATE & TIME** Wednesday, December 9, 2020 | 11:00 am – 12:30 pm US ET

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

|                                      |  |                      |
|--------------------------------------|--|----------------------|
| <b><u>VOTING MEMBERS PRESENT</u></b> | Argentix Informatix                            | Silver, Elliot       |
|                                      | DesAcc EMEA                                    | King, Graham         |
|                                      | Grafimedia                                     | Georgiadis, Pantelis |
|                                      | Healthcare Tech Solutions                      | Eklund, Keith        |
|                                      | Laitek, Inc.                                   | Solomon, Harry       |
|                                      | Society for Imaging Informatics<br>In Medicine | Bishop, Matthew      |

|                      |                 |                            |
|----------------------|-----------------|----------------------------|
| <b><u>OTHERS</u></b> | Hyland Software | Ullrich, Mike<br>Horn, Rob |
|----------------------|-----------------|----------------------------|

|                                     |                               |                     |
|-------------------------------------|-------------------------------|---------------------|
| <b><u>VOTING MEMBERS ABSENT</u></b> | AAPM                          | Bevins, Nicholas    |
|                                     | Ambra Health                  | Ostrow, Daniel      |
|                                     | Canon Medical Research USA    | O'Donnell, Kevin    |
|                                     | Canon/Vital Images            | Dawson, Tim         |
|                                     | Canon/Vital Images            | Whitby, Jonathan    |
|                                     | Change Healthcare             | Ho, Kinson          |
|                                     | European Society of Radiology | Mildenberger, Peter |
|                                     | GE Healthcare                 | Nichols, Steven     |
|                                     | GE Healthcare                 | Numan, Jouke        |

|  |                        |
|--|------------------------|
| Laitek, Inc.                                   | Brown, Barry           |
| Laitek, Inc.                                   | Costea-Barluti, Razvan |
| Laitek, Inc.                                   | Sluis, Douglas         |
| Mach7 Technologies                             | Ulanov, Alexey         |
| Mayo Clinic Rochester                          | Persons, Kenneth       |
| PixelMed Publishing                            | Clunie, David          |
| Society for Imaging Informatics<br>In Medicine | Carey, Cheryl          |
| Society for Imaging Informatics<br>In Medicine | Henson, Kyle           |
| Varian Medical Systems, Inc.                   | Schwere, Thomas        |

**DICOM** Anna Zawacki, SIIM  
**SECRETARIAT**

## **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 and approved.

## **3 REVIEW MINUTES (Co-Chairs)**

The minutes of the previous meeting were reviewed and approved.

## **4 TOPIC ITEMS TO BE DISCUSSED (All)**

Detailed review of the latest draft of Supplement 223:

[ftp://d9-workgrps@medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/WG33/2020/2020-12-09/Sup223\\_11\\_InventoryIODandServices.docx](ftp://d9-workgrps@medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/WG33/2020/2020-12-09/Sup223_11_InventoryIODandServices.docx)

WG-33 read through, discussed and finalized the proposed changes to the draft Supplement # 223

For C.YY.1.2.2 Not for Clinical Use Flag, #2 changed to what Graham suggested. It now reads:

2. The content of the Inventory may not match the information obtained through the Query/Retrieve Service since Studies, Series, or Instances in Inventory SOP Instances marked Not for Clinical Use typically do not appear in Query/Retrieve responses.

Next change – added in GZIP because we could have single SOP instances that are in files that are just Gzipped without going through TAR

- **C.YY.1.2.8 Stored Instance Container Type**

If the resource identified by File Pathname (0008,0FxA) is a container format file as specified in [Section P.1.2](#), Stored Instance Container Type (0008,0FxB) identifies the type of container file. The Defined Terms are:

- ZIP ZIP container file in accordance with [\[ISO/IEC 21320-1\]](#)
- TAR ustar container file in accordance with [\[POSIX\]](#)
- GZIP GZIP container file in accordance with [\[RFC1952\]](#)
- TARGZ ustar container file in accordance with [\[POSIX\]](#), contained and compressed within a GZIP container file in accordance with [\[RFC1952\]](#)

Next - C.YY.2 Scope of Inventory Macro – added in an Empty Key Attribute List

You would initiate an inventory and say – include any studies for whichever of these 3 things you want to be absent. This gets treated the same way as the Patient ID list. Patient ID list – if the study matches any of the patient ID list, fine – if it matches empty key for whatever is in this list – that would be a match.

|                           |             |   |   |
|---------------------------|-------------|---|---|
| >Empty Key Attribute List | (0008,0FyD) | 2 | Study attributes to be matched with empty value.<br>Enumerated Values:<br>00080020 – Study Date<br>00080050 – Accession Number<br>00100020 – Patient ID<br>See <a href="#">Section C.YY.2.1.6</a> |
|---------------------------|-------------|---|---|

And the matching text for this is:

- **C.YY.2.1.6 Empty Key Attribute List**

Empty Key Attribute List (0008,0FyD) specifies the tags of attributes that match the scope of inventory when the corresponding attribute in the study has an empty value; i.e., studies for which the identified attributes have no value are to be included in the inventory. Multiple values may be present, and the absence of a value in any of the attributes identified in this list is a successful match.

Empty Key Attribute List shall not have a value of 00080020 (Study Date) if either Start Timepoint (0008,0Fy1) or End Timepoint (0008,0Fy2) has a value. Empty Key Attribute List shall not have a value of 0010020 (Patient ID) if Patient ID List (0008,0Fy5) has a value.

Hopefully, this will do what we need it to do – prep an inventory of things that have missing attributes so we could do some fixup on them.

Typically, one of the important first steps of the migration is to find these things because you want to match those.

Next Addition - in the inventory initiation module

You can get back the referenced instance sequence – which is Inventory SOP

Instances created in response to the Inventory Initiation Request

And if they were compressed, we want to know what type of container file they are in and the name of that container file.

|                                 |             |  |
|---------------------------------|-------------|--|
| Referenced Instance Sequence    | (0008,114A) | Inventory SOP Instances created in response to the Inventory Initiation Request  |
| >Stored Instance Container Type | (0008,0FxB) | If File Pathname (0008,0FxA) references a container format file, identifies type of container file. See <a href="#">Section C.YY.3.1.1</a>   |
| >Filename in Container          | (0008,0FxC) | If File Pathname (0008,0FxA) references a container format file, identifies filename within the container file of the file containing the SOP Instance. See <a href="#">Section C.YY.3.1.1</a> |

Added in text that describes how it works as follows:

If the stored Inventory SOP Instance is included in a container file as specified in [Section P.1.2](#), Stored Instance Root URI concatenated with File Pathname (0008,0FxA) provides the URI for accessing that container file. Stored Instance Container Type (0008,0FxB) identifies the type of container, using the Defined Terms specified in [Section C.YY.1.2.8](#). Filename in Container (0008,0FxC) is the filename within that container file of the file containing the SOP Instance.

Note

Storage in a container file supports the application of compression to the entire file using operating system applications, rather than compression of the SOP Instance using the Deflated Little Endian Transfer Syntax (see [Section A.5 in PS3.5](#)) using DICOM applications.

Changes to Annex P

Put in a GZIP – turns out to be a container format for a single file

ZIP can hold multiple SOP instance, so can TAR

GZIP only single instance file

- **P.1.2.3 GZIP**

A single SOP Instance file may be included in a GZIP container file in accordance with [RFC1952](#).

Note

The GZIP format supports compression of the contained file using [RFC1951](#) DEFLATE compression,

- **P.1.2.4 TAR+GZIP**

A TAR container file may further be contained within a GZIP container in accordance with [RFC1952](#) (denoted TAR+GZIP).

Note

The TAR+GZIP format supports compression of the multiple SOP Instances in the TAR,

Next change –for Table XX.4-2. Inventory FIND additional return key attributes  
When you are doing a CFIND on inventory instances you can get back that information if it has in fact been compressed (the inventory object has been compressed)

|                                     |             |    |  |
|-------------------------------------|-------------|----|--|
| Stored Instance Container Type      | (0008,0FxB) | 1C | Required if File Pathname is present and references a container format file. |
| Filename in Container               | (0008,0FxC) | 1C | Required if File Pathname is present and references a container format file. |
| Stored Instance Transfer Syntax UID | (0008,0FxF) | 1C | Required if Stored Instance Root URI is present                              |

Annex XXXX Inventories (Informative) - explanatory, want to look in detail at this Members present on the call read through the Annex paragraph by paragraph.

In addition to small, stylistic or other minor edits, there were a few content-related discussions:

Added in the highlighted in yellow as an additional clause:

- **XXXX.2.3 Scope of Inventory**

The Inventory IOD supports inventories of subsets of the repository based on a select number of key attributes that specify the scope of the inventory. Those key attributes (see [Section C.YY.2 “Scope of Inventory Macro” in PS3.3](#)) include Study Date and Time, Study Update Datetime, Modalities in Study, Study UID List, Patient ID List, and Empty Key Attribute List. The scope is also implicitly limited to records available at the Content Date and Time when processing of the inventory began (see [Section C.YY.1.1.1 in PS3.3](#)), although records received or updated during inventory production may be included, and studies deleted during production might not be included.

Add when object/instance gets removed during inventory creation as an open issue.

Line 1250 – added for each repository stored instance

Add a reference link around the 1305 line

Paragraph starting with line 1321 has been updated to show an example rather than a rule:

The Inventory Initiation SOP Class provides for regular reports on the status of inventory creation, at an interval specified by the SCU (see [Section ZZ.2.2.2 in PS3.4](#)). This allows the SCU to ensure that the operation has not stalled. For example, such reporting might be desired for each 5% of process progress, and for an inventory that is expected to complete in one day, a status report could be requested at 30-minute intervals. The SOP Class also allows the SCU to request a status report update at any time.

1358 – regular operations (deleted imaging departments)

1368 – mentioning single container file – do we just want to say one or more container files? Add one or more container files question as an open issue.

Add a paragraph about anonymization and PHI since we are talking about a research Use Case under XXXX4.3 Research

Around line 1450 - DICOM enables secure access and transport; it does more than specify.

Add See Section D.3.3.7 in PS3.7 - covers username, password, etc. and enables all these things.

## **5 OLD BUSINESS**

## **6 NEW BUSINESS**

## **7 DATE AND TIME OF NEXT MEETINGS (Secretariat)**

- Continue T-con meetings bi-weekly for the time being
- Next call is January 6, 2020 between 11:00 am and 12:30 pm ET

**NEMALINK CODE**                      09-WG33

**SUBMITTED BY**                        Hull, Carolyn

**SUBMITTED ON**                        1/12/21

**LEGAL APPROVAL**

1/18/2021

**UPLOAD LOCATION**

Enter upload location.