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| Description: Description: O:\LOGOS\DICOM\DICOM LOGO - MEDIUM.tif | **1300 North 17th Street, Suite 900 Arlington, VA 22209, USA**  **+1-703- 475-9217**  [http://dicom.nema.org](http://dicom.nema.org/)  E-mail: [**dicom@medicalimaging.org**](mailto:dicom@medicalimaging.org) |

# ***MINUTES***

DICOM WORKING GROUP 20

(Integration of Imaging and Information Systems

and Web Services)

and

HL7 IMAGING INTEGRATION WORK GROUP

Date: Oct. 7-8, 2015

Place: HL7 Meetings

Sheraton Atlanta

Atlanta, Georgia

**WG-20 Members Present Represented by**

AGFA Healthcare Brad Genereaux

GE Healthcare Harry Solomon  
Laitek Frederic Behlen

McKesson Imaging Elliot Silver

Philips Healthcare Chris Melo

**WG-20 Members Not Present Voting Representative**

HL7 Norway Lars-Gunnar Hartveit

Karos Health Teri Sippel Schmidt

PixelMed David Clunie \*

Siemens Healthcare Antje Schroeder

QualiTest Win Swarr

**Others Present Affiliated with**

Kurt Allan PenRad

Beau Bannerman SD/Lantana

Calvin Beebe SD / Mayo Clinic

Boris Brodsky BRIDG/FDA

Hans Buitendijk OO/Cerner

Laurie Burckhardt AP/WPSI

Lorraine Constable OO/HL7 Canada

Richard Esmond PenRad

Attila Farkas SD/Canada Health Infoway

Myron Finseth BRIDG/Medtronic

Shelly Fisher BRIDG/Brit Systems

Benjamin Flessner SD/Epic

Danielle Friend AP/Epic

Bill Friggle BRIDG/Senofi

Sara Gaunt SD/Lantana

Rick Geimer SD/Lantana

W. Gregory BRIDG/Pfizer

Smita Hastak BRIDG/Samvit-Solutions

Robert Hausam SD/Hausam Consulting

David Hay SD/HL7 New Zealand

Wendy Ver Hoef BRIDG/Samvit-Solutions

John Kiser BRIDG/Abbvie

Michio Kimura HL7 Japan

Ewout Kramer FHIR/Furore/HL7 Netherlands

Austin Kreisler SD/Libidos

Nell Lapres Epic

Chris Lindop WG-27/GE

John Moehrke FHIR/GE Healthcare

Kevin O’Donnell WG-27/Toshiba

James Philbin (P) WG-27/ Johns Hopkins Medicine

Andrea Pitkus AP/IMO

Marc Roche SD/Roche Consulting

Martin Rosner SD/Philips

Dmytro Rud FHIR/Roche Diagnostics

Amnon Shabo SD/Philips

Ron Shapiro Qvera

Rene Spronk SB/HL7 Netherlands

Lise Stevens BRIDG/FDA

David Tao SD/ICSA

Janes Topping BRIDG/Duke University

Stephen Vastagh MITA  
Ulrike Wagner BRIDG/NCI/FNLCR

Mead Walker BRIDG/MWC

Yunwei Wang SD/IMO

Jonathan Whitby (P) WG-27/Toshiba/Vital Images

Diane Wold BRIDG/CDISC

\* Not counted for quorum

**Presiding Officers** Harry Solomon, GE Healthcare, Co-Chair  
 Elliot Silver, McKesson, Co-Chair

1. **Opening**

The meeting was called to order at 09.00. The antitrust rules were reviewed.

The previous minutes were approved. The Agenda was reviewed and approved.

1. **Administrative**

The HL7 WG health metrics were reviewed and discussed. The Chair reminded members of the ongoing election for II/WG-20 Co-Chair. The second day of this meeting the election of Elliot Silver was announced. Additionally, H. Solomon informed the Group that he will not stand for re-election; there will be another vacancy and election for Co-Chair WG-20/II.

1. **Highlights:**
   1. New effort – FHIR Workflow. See item 12.7
   2. HL7 endorsement of DICOM Part 20 CDA Imaging Reports. See 9 below.
   3. DICOM Value Sets in Part 16. See 15 below
   4. FHIR DSTU 2 See item 10 below.
   5. New Work: FHIR Profiles. See item 7.2 below
2. **IIWG/WG-20-Strategy, Future Projects**

The Group reviewed the project dates in the 3-year plan.

The SWOT analysis, IIWG Mission/Charter were (revision unanimously approved), and the HL7 endorsement plan were posted.

1. **Jt. Mtg with HL7 Orders & Observations (O&O), Anatomic Pathology (AP), BRIDG, and Clinical Genomics (Clin Gen)**

WG-20/IIWG joined the HL7 OO, AP, CG, and BRIDG for a joint meeting, on Wednesday Q2. The joint meeting was hosted by OO, and therefore the O&O minutes are the official record.

H. Solomon reported the new effort under way on “FHIR workflow” – defining explicit order and task execution control functions (not just implicit in “status” attributes of RESTful resources). There are major implications for imaging study orders.  Those interested should sign up for new listserv at <http://www.hl7.org/myhl7/managelistservs.cfm> (under FHIR Infrastructure).  The project will have biweekly tcons. C. Melo referenced the related IHE White Paper.

An update on BRIDG was provided (founding stakeholders: FDA, NCI, HL7, ISO)

A similar session will be held at the January meeting, Monday Q3-Q4.

1. **IIWG/WG-20-Mission Statement**

Revised to clarify the imaging integration support by IIWG. Unanimously approved and posted.

1. **IIWG/WG-20 3-Year plan**
   1. **Completed work**Project 821 was removed, no progress, no longer necessary, no longer used in the context of v3 messages  
      WADO Sup 148 completed, removed

Project 728 –CDA R2 Impl. Guide) was discussed; completed

Supp 155 – completed, removed

Project 110 (Imaging Resource Specification) is completed

* 1. **New Work**

FHIR Profiles (implementation guides) for specific uses. Identified three as initial targets (with discussion leaders):

* Profile of DiagnosticReport, Result, Observation in support of radiology reporting (Brad Genereaux)
* Profile of ImagingStudy and its linked resources (Patient, DiagnosticOrder, etc.) in support of expected PACS capabilities (Elliot Silver)
* Profile of Observation and other resources in support of critical findings/recommendations follow-up tracking (Harry Solomon)

Wiki page for discussion at <http://wiki.hl7.org/index.php?title=IIWG_FHIR_Profiles>.

The 3-year revised plan was posted in the mtg folder

1. **IIWG/WG-20-CPs**

Discussed the difference between DICOM and HL7 PT name representation. Will discuss with FHIR a possible change of name/address representation. Discussed CP-1163 and CP-1550 (new for Nov. WG-06 mtg.)

1. **FHIR DSTU2 (Fast Health Interoperability Resources)**

FHIR DSTU 2 is published; there will be a DSTU 2.1 ballot in Spring 2016, but ImagingStudy and ImagingObjectSelection resources are now considered mature/stable enough to be frozen, and no further changes will be allowed for them until DSTU 3 in 2017.

1. **HL7 endorsement of DICOM Part 20 CDA Imaging Reports.**

Discussed the advantages of HL7 balloting; will discuss it with SD Thursday Q1 HL7 endorsement plan was reviewed and posted.

References: Draft approach document at <http://wiki.hl7.org/images/3/3f/Proposed_approach_for_HL7_endorsement_of_DICOM_PS3.docx>, and Wiki page for discussion at <http://wiki.hl7.org/index.php?title=IIWG_Project_for_DICOM_PS3.20>. Intention is for IIWG/WG-20 to finish the draft by end of month, and then review with HL7 HQ and WG-06 in November. If everyone agrees, we will have motion at DSC meeting at RSNA to proceed.

In Q1 on Thursday the discussion continued about with HL7 endorsement of Imaging Reports using Clinical Document Architecture.

* Principle: One publication, one maintenance process
* HL7 endorsement of an external IG.
* On initial ballot, negative comments reconciled by IIWG together with DICOM WG-06 (DICOM CP process)
* Post-ballot: do we add a cover page to DICOM publication?
* Will HL7 require joint copyright? (MOU is part of the II Decision Making Process, but doesn't appear to cover IP issues.)
* Goals: improve visibility; block HL7 from developing a competing IG
* Will HL7 publish a link to DICOM on its CDA IG web site?
* Joined  by Keith Boone
* GOM includes provisions for endorsed and adopted externally developed IGs
* CPs handled by DICOM process and balloted through both; Final text changes not approved until reconciliation has been approved; prep of updated publication will be done by DICOM and forwarded to HL7 for publication; Ballot will be handled under HL7 provisions
* Harry started to draft a diagram to outline the flow of changes
* Suggest that we direct all feedback on published document to DICOM secretariat (who will forward to WG-20). II WG will prepare a PSS  for a ballot on accepted changes.
* Ballot that makes PS 3.20 normative will also deprecate Diagnostic Imaging Report CDA informative standard. Not sure if same ballot will deprecate DIR out of C-CDA 2.1.
* Co-chairs should follow up with steering committee to determine a post-ballot change submission process.
* Precedent in HL7: parallel ballot with IDMP (Identification of Medical Product) – No continuous maintenance process was included.

1. **Joint meeting with Structured Documents (SD)**

WG-20/II WG joined the HL7 SD for a joint meeting, on Thursday. The joint meeting was hosted by SD, and therefore the SD minutes are the official record.

* + Harry Solomon summarized status of CDA IG for Imaging Reports
  + Inquired how HL7 should endorse the DICOM IG, and how to bring the PS3.20 into C-CDA.
* SD Response:
  + Future of C-CDA not yet determined.
    - Patient Care would like to see changes in C-CDA, as would other groups, so there will likely be another release (2.2 or 3.0), but not yet determined.
* Endorsement approach (Universal Realm, outside of C-CDA)
  + Existing Diagnostic Report IG informative ballot could be refreshed, or new normative ballot
* Any approach will likely have IP issues that need to be resolved with
* SD willing to co-sponsor a PSS if the issues can be dealt with.

CDA-on-FHIR

* SD believes introduction text needed to show how mappings will work.
* Also covered under Argonaut work
* Intend to do FHIR profiles to capture CDA templates; will use an incremental approach, building from low to high CDA levels (i.e., only handle text sections at first)
  + Target May ballot for first profiles
  + Completed for DSTU3

1. **Joint meeting with FHIR WG and DICOM WG-27**
   1. Person name representation issues -- will file a tracker item for a standard extension.
   2. QICore issues: discussion of ownership of radiation dose extensions to ImagingStudy
   * Owner/author is Mark Kramer
   * New tracker items will be filed indicating that they are not supported by II. (8822 and 8823) Marked the IIWG questions in Gforge.
   1. 8232 - Harry withdraws his objection, still listed as open item, and John will close it
   2. 8567 - John will dispose  as no change needed (already dealt with in post ballot changes)
   3. Ewout presented the plan for DSTU2.1 (Q2 2016) and DSTU3 (end of 2017)
   * Proposed imaging profiles do not appear to be core, and could be published on an independent schedule.
   * Motion: Imaging resources should be "frozen". (Moved: John M, Second: Brad, Y:9-N:0-A:2)

John will notify FMG.

* 1. Discussion of similar issues between FHIR and DICOMweb:
  + Both support headers/query parameters for content negotiation.
  + Capability discovery: Options header vs. a capability resource
    - FHIR decided to support a capability resource so that plain browsers can retrieve it to make it easier on developers.
    - Would be nice to be able to do a mapping between FHIR capabilities and DICOMweb capabilities
      * Add this as a mapping on FHIR conformance? Don't think there is a benefit
    - WG-27 to look at adding /metadata as an alternative to using Options header.
  + Operations - name style in FHIR is operation at the end of the URL.
    - Not sure that there's an advantage to adoption the same styling in DICOMweb
  + FHIR endpoint discovery can be done via capabilities if ImagingStudy and ImagingObject selection are storied on a different server from, e.g. Patient. (One server can provide all endpoints for the institution.)

12.7 John warned that IIWG should discuss workflow; much work is expected around workflow: New effort under way on “FHIR workflow” – defining explicit order and task execution control functions (not just implicit in “status” attributes of RESTful resources). Major implications for imaging study orders.  If interested, sign up for new listserv at <http://www.hl7.org/myhl7/managelistservs.cfm> (under FHIR Infrastructure).  Project will have biweekly tcons.

1. **WG-27 Issues**DICOMweb services for non-patient/study/series/instance information objects (e.g. protocols, templates, color palettes).
   * Harry presented a suggested CP to correct placement of templates from under patient/series/study to a new simple service class.
     + Along with this, there was a discussion of making this simple object available via DICOMweb.
     + Decision: To submit a DICOM work item creating the new RESTful "simple" service.
       - Revision control of the simple items was discussed. It was decided that this would not be led by WG-27, but could be handled as a change to the information model, led by WG-06.
       - Rules for preservation and editing of private and type 3 attributes were discussed, and Kevin will ensure that the CT protocol supplement (121) adequately describes the restrictions that must be honored by modality and non-modality protocol editor.
       - Supplement 192 (approval and signature) has a similar requirement.
       - Brad volunteered to author the simple service work item.

* Value mappings for ImagingStudy
  + Jim will send an email with his concerns.

1. **Conformance for DICOM Web Services**

* Harry presented a suggested CP to include conformance requirements for DICOMweb; proposed simple conformance claim (less than a page). This should not be an obstacle. List SOP Classes supported, include media types.

**HOMEWORK**

* After discussion it was decided that
  + Elliot will write a sample conformance document for DICOMweb
  + Kevin will supply UPS-RS conformance text
  + Harry will elaborate CP to include discussed
  + Harry will post end of meeting CP
* Consider how closely the conformance statement should match the capabilities resource

1. **DICOM Value Sets in Part 16**

Discussion of how to provide access to DICOM Context Groups (value sets) to U.S. National Library of Medicine Value Set Authority Center.  Of course, these are published on web in the DICOM Standard, but search and retrieve by UID are not simple.  Discuss possibility of standing up a FHIR ValueSet resource server as a front end to the DICOM published XML.

Harry summarized discussions that included SD and Vocab

* DICOM context groups are referenced in some CDA IGs.
* It isn't straight forward to map from an oid to a value set definition
* We could stand up a FHIR vocab server vending value sets
  + Host by NEMA? Hosted on Amazon? Authorization, access management
  + URL should be under DICOM or NEMA
* Will discuss with David Clunie including automation
* To be further discussed by DICOM WG10 and WG29.

1. **Next Meetings**

**T-Cons:**

Third Tuesday of each month (starting November 17) noon-13:00 ET

**In-Person:**Discussion of the January 11-15, 2016 meetings- Orlando Hyatt

* Discussion of Jan WGM schedule
  + Mon Q3/4 OO (FHIR)
  + Tues Q4 HIS
  + Wed Q1 II
    - Q2 joint with OO, etc.
    - Q3/4 FHIR profiles AND CDA IG ballot
  + Thurs
    - Q1 SD - CDA IG ballot
    - Q2 WG-27 joint with FHIR
    - Q3 WG-27
    - Q4 WG-10
  + Fri
    - WG-10
    - Q2 Joint with ISO
    - Q3/Q4 ?

**Future Meetings of HL7:**

2016

* Jan. 10-15, 2016 – Hyatt Regency, Orlando, FL
* May 8-13, 2016 – Le Centre Sheraton, Montreal, Canada
* Sep 18-23, 2016 – Hyatt Regency, Baltimore MD

1. **Adjournment**

The meeting was called to order at 09:00 Eastern Time daily, recessed at 17:00 daily, and adjourned on Oct. 8, at 17.00.

Reported by Stephen Vastagh, Secretary

Reviewed by Legal Counsel: Clark Silcox