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# Meeting MINUTES

## DICOM WORKING GROUP SIX (Base Standard)

Tuesday, Jan. 24-Thursday, Jan. 26, 2012  
Arlington, Virginia

Members Present	Represented by	M	T	W	Th	F
Agfa Healthcare	Robert Horn		X	X	X	
CoreLab	David Clunie		X	X	P	
DatCard Systems	Jere Darling		X	X	X	
GE Healthcare	Andrei Leontiev		X	X	X	
JIRA	Makoto Suzuki		X	X	X	
Konica Minolta Med. Imaging	Michael Laconti		X	X	X	
Merge Healthcare	Ronald Cowan		X	X	X	
Philips Healthcare	Bas Revet		X	X	X	
Siemens Healthcare	Bjorn Nolte		X	X	X	
Toshiba Medical Research Institute USA	Kevin O'Donnell		X	X	X	
Members Absent	Voting Representative					
* ICCAS (Innovation Center Computer Assisted Surgery (ICCAS))	Burgert, Oliver					
Carl Zeiss Medical Software	Tobias Kurzke					
*DeJarnette Research Systems	Fred Ganong					
*Societe Francaise de Radiologie	Joel Chabriaais					

Alternate Voting Representatives, Observers, Others Present	Affiliation	M	T	W	T	F
Busch, Ulrich	WG-07, Varian		P		P	
Culp, Timothy	WG-27, Harris Healthcare		P			
Kanzaki, Masatoshi	WG-11-Real Vision		P	P	P	

Matsui, Norihisa	WG-11-Shimadzu			P	P	P	
Solomon, Harry	WG-26, GE Healthcare			P	P		
Stephen Vastagh	MITA Staff			X	X	X	

(\* = Does not count toward a quorum, P = Phone and/or web, X = Present)

**Presiding Officer:**

Bas Revet, Chair

### 1. Opening

The Chair called the meeting to order at 08.30 on Jan. 24. Participants identified themselves and their employers. The secretary reported that a quorum was present. Members approved the agenda with the addition of Sup 157. Members reviewed the minutes from the WG-06 meeting held in Oct. 2011 and approved them as written with a change: CP 1005 should be CP 1105. The Secretary reviewed the antitrust rules.

### 2. Secretary's Report

Committee Secretary Stephen Vastagh reported on the ballot distributed following the Oct. 2011 meeting of WG-06. The ballot closed 2012-01-10; the ballot met DICOM's quorum requirements and passed.

BALLOT Closed	APPROVE	DISAPPROVE	ABSTAIN	COMMENTS
CPack64	21	0	4	16

### 3. Discussion of CPs

Discussed and decided to cancel CP-1153 (New Instance Reference Attribute in SOP Common). Reason: a replacement should not reference what it replaces. The IHE accepted H. Solomon's point that backward reference is not appropriate. D. Clunie discussed that the evolving RT objects of treatment plans need a reference to the preceding plan. Such reference is appropriate but it must be clear that there is no substitution.

### 4. Letter Ballot Correction Package #64 - Comments - Final Text

CPs in the Letter Ballot Correction Package # 64 (CPack64 – closed 2011-10-19) are listed below together with disposition of comments and decision on Final Text.

CP	Name	Disposition of Comments and Other Notes	Final Text
1123	Add codes and SOP Common attribute to identify data created for quality purposes	Discussed, David will revise and it will be re-balloted. Discussed quality control, coding of phantoms.	No
1128	Enforce UT CR/LF Part 5 requirement in Part 3	Accepted	Y
1156	UUID as UID	No comments	Y
1157	Correct RT Plan Module Conditionality	No comments	Y
1158	Clarify RT Structure Set ROI Number	Accepted	Y
1159	Correct Part 16 Codes	Accepted	Y
1160	Degree sign in UCUM	Accepted	Y

1161	Correct Plural Code Meanings	Accepted	Y
1162	Correct Gyn History Code	Accepted	Y
1165	Clarify Coding Scheme Designator	No comments	Y
1166	Allow Frame of Reference in Segmentation even if derived image references	No comments	Y
1167	Coding scheme for UK NHS National Interim Clinical Imaging Procedures (NICIP)	No comments	Y
1168	Device observer code meaning incorrectly capitalized	No comments	Y
1169	Breast Tomosynthesis is missing X-Ray Receptor Type so condition on Field of View Origin is incomplete	D. Clunie reported on WG-15 discussion and made revisions.	Y
1170	Add AAPM 204 Size-Specific Dose Estimates to CT RDSR	Accepted	Y
1171	Encapsulated Document Bulk Data	Accepted	Y
1172	Incompleteness of CP-1027	No comments	Y
1174	New PET Isotope and Radiopharm codes needed.	No comments. New SNOWMED to be published in a week. Harry will send codes to Bas	Y

The WG-06 voted unanimously to approve, as **final text**, the CPs in CPack-64 as revised, except CP 1123.

#### 5. Decisions on of Voting Package – Jan 2012

The group reviewed and discussed the CPs that were in the VP (Voting Package) coming into this meeting. Revisions were decided and inclusion in the next Letter Ballot CPack-65 was decided as shown below.

CP#	Voting Package for Jan 2012 -- Title	Assigned to	Discussion	Approved for LB
1105	Make Keywords Valid Java/C Identifiers	R. Horn		Y
1112	Add SR Structure for ROI Statistics	H. Solomon		Y
1148	Add Pathology Protocol Codes	H. Solomon		Y
1175	Structured Display needs creation date & time for instance and DICOMDIR	D Clunie		Y
1177	Remove inaccurate series description	H. Solomon		Y
1178	Add guidance intent to CID 3629	H Solomon		Y
1179	Correct RWV Map in NM IOD	D. Clunie assigned		Y
1180	Use LOINC_Short Name	H. Solomon,	Not ready for LB yet.	No
1181	Correct LOINC_codes for fetuses	H. Solomon		Y
1182	Add Rad Dose SR to CT Media Profiles	H. Solomon,		Y
1183	Clarify Meanings for UCUM codes	H. Solomon		Y
1184	Retire CID 3082	H. Solomon		Y
1185	Correct Vascular Resistance Units	H. Solomon		Y
1186	Remove Concatenation requirement in agreement with CP1073	B Revet		Y
1187	Wrong DICOM Tags are referenced in part 2	B Revet		Y
1188	Add Tray ID To Compensator	U Busch		Y
1190	Add 'Purpose of Reference Code Sequence' to Ophthalmic Frame Location Macro	B Revet		Y

**6. Letter Ballot CPack-65**

In addition to the CPs approved from the voting package two more CPs were approved for LB:

- CP-1077      There was significant technical discussion throughout the meeting and numerous changes were made before approving for LB. CP-1077 is complicated yet it represents an important need to facilitate application of DICOM SR for CR-DR systems where the system components are not integrated. This is a significant challenge and WG-06 spent a considerable time working on the CP. The solution will preserve the validity of previous solutions.
- CP 1123      Re-balloted from CPack-64 (see item 4 above.)

Accordingly the Letter Ballot for CPack-65 approved for legal review and distribution is shown below.

<b>CP#</b>	<b>Title -- Letter Ballot CPack-65</b>
1077	Add CR Report Type to Dose SR and Relax Content Conditions [The CP proposes to use the same template for all fluoro, mammography, and CR and DR rather than creating new template for CR-DR.]
1105	Conformance Claim for SR-CDA Transform
1112	Add SR Structure for ROI Statistics
1123	Re-ballot from CPack-64: Add codes and SOP Common attribute to identify data created for quality purposes
1148	Add Pathology Protocol Codes
1175	Structured Display needs creation date & time for instance and DICOMDIR
1177	Remove inaccurate series description
1178	Add guidance intent to CID 3629
1179	Correct RWV Map in NM IOD
1181	Correct LOINC_codes for fetuses
1182	Add Rad Dose SR to CT Media Profiles
1183	Clarify Meanings for UCUM codes
1184	Retire CID 3082
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1186	Remove Concatenation requirement in agreement with CP1073
1187	Wrong DICOM Tags are referenced in part 2
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1190	Add 'Purpose of Reference Code Sequence' to Ophthalmic Frame Location Macro

**7. Change Proposals moved to VP (Voting Package) for March 2012**

During this meeting, members of WG-06 reviewed, discussed, and revised as decided assigned correction proposals. The members voted to include the following CPs in the WG-06 **Voting Package for March 2012**:

<b>CP#</b>	<b>Voting Package for March 2012 -- Title</b>	<b>Assigned to</b>	<b>Discussion</b>	
1137	Structure Set Relationship Sequence	U. Busch		
1176	Change CID of Anatomic Region Sequence for X-Ray 3D Angiography	B Revet		

1180	Use LOINC_Short Name	H. Solomon,		
1191	Fix Typo in TAG for Lossy Image Compression Method	B Nolte		
1192	Fix Typo RT Beams Delivery instruction module and dictionary	B Nolte		
1193	Fix Typo in table C.8.27.2-4	B Nolte		
1194	Clarify dose for breast X-Ray	B. Revet		

### 8. Other Previously Assigned Change Proposals Discussed

The following change proposals were discussed and dispatched as noted:

CP#	Title	Assigned to	Discussion	
None				

### 9. New Change Proposals

The following new change proposals received CP numbers and will be placed in the “Assigned” folder of the March 2012 meeting:

CP# assigned	New Change Proposals in Jan 2012 -- Title	Assigned to	Discussion	File ID
1195	Various correction to PS 3.16	B. Revet		BR104
1196	RDSRHead BodyTotalDLP2	D. Clunie	Needs discussion in WG-02	DAC175
1197	UnspecifiedCodeinSR	D. Clunie		DAC176
1198	SurfaceSegPointIndexEncoding	D. Clunie		DAC177
1199	AddModifierToProcessingParametersSequence	D. Clunie		DAC178
1200	AddAttributesToSSO-Primitives-v3	B. Nolte	H. Blender-needs to be looked at by experts. Sliding toward presentation postscript.	Hb_add ...
1201	CorrectContentItemDefinition-TID10002-v2	B. Nolte	WG-17	Hb_Correct....
1202	CorrectCodeForLiver	B. Revet		HS52
1203	PDRinRTBrachySession-05	U. Busch		RT15
1204	SourceID-04	U. Busch		RT16
1205	DeviceParametersInCT-01	U. Busch		RT19
1206	DoseSummationType-02	U. Busch		RT20
No	ReferencedObjectMissing-02		Production issue; D. Clunie will revise	RT21
1207	MFdimension	B. Revet	Tom Probasco-WG-06 needs more information and examples for when it is meaningful [BR to contact TP]	TP

The comprehensive list of all CPs is posted in <ftp://medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/Wg06/2012/2012-01-23> (enter password)

#### **10. Supplement 124 – Communication of Display Parameters {WI 2004-12-B}**

Norihisha Matsui and Masatoshi Kanzaki of WG-11 were again connected from Japan with WG-06 representative K. O'Donnell again assisted in the continued review of Sup. 124. The detailed review of the Supplement continued for a total of six hours. Numerous revisions were made.

The Supplement will return for 6 hours in March 2012, most likely 08:30-10:30, Jan. 24-26 with the objective of winning authorization to issue it for Public Comment.

#### **11. Supplement 147 – Second Generation Radiotherapy {WIR 2007-06-B}**

Ulrich Busch was connected by phone. He reported that WG-07 closed out several issues at its Nov. 2011 meeting. However, 20 issues remain open. A WG-07 workshop, following the IHE-RO TC meeting, is scheduled for early February 2012 to allow more time for WG-07 members to work on the Supplement. He further noted that WG-07 will meet for one week at MITA HQ prior to WG-06 in March and requested 6 hours at that meeting. The goal is to reach Public Comment phase in 2012. Thereafter Uli presented open issues for discussion and received guidance from WG-06 for the further work by WG-07.

#### **12. Supplement xxx –WADO RESTful API**

Supplement Editor Tim Culp reported on the Supplement:

- Decision was made at WG-27/WG-06 in September that adding RESTful methods to WADO Web Services as defined in 148 was in scope of the initial work item
- Supplement 148 was currently in final text so enhancements will be published under a new supplement number
- Currently editing Supplement 148 as a means to start discussions and reach decisions on the format and content of the RESTful API
- David Clunie provided draft copy of DICOM 2012 for future edits
- Plan on incorporating comments/suggestions from WG-27/WG-06 for further discussion at WG-27 meeting (2012-02-22 at HIMSS 2012)
- The DICOM WADO RESTful API resources. An implementation shall support at least one of these endpoints. The endpoints are:
  - ▶ RetrieveStudy - This resource retrieves the full set of DICOM instances related to the study returned in a multipart mime response
  - ▶ RetrieveSeries - This resource retrieves a series as a set of DICOM objects returned in a multipart mime response
  - ▶ RetrieveInstances - This resource retrieves a list of SOP Instances as a set of DICOM objects returned in a multipart mime response

- ▶ RetrieveInstance - This resource retrieves a SOP Instance as a DICOM object returned in a multipart mime response
- ▶ RetrieveFrames - This resource retrieves a range of frames as a set of DICOM objects returned in a multipart mime response
- ▶ RetrieveMetadata - This action retrieves the study level metadata or a subset as defined by an XPath filter.
- Assumptions
  - ▶ All XML responses shall be encoded as described in the Native DICOM Model defined in PS3.19.
  - ▶ By default, DICOM objects returned shall be encoded in Explicit VR Little Endian (see 8.2.11 for more information on Transfer Syntax UID).

The discussion included:

- Remove GetInstances in favor of multiple calls to GetInstance.
- Transfer syntax should be specified in the header or as an explicit RESTful resource, not as a parameter.
- The focus of WADO RESTful API should be on transport as opposed to presentation or processing. For example, supporting window regions is the role of a JPIP streamer as opposed to DICOM communication.
- Provide a separate resource or an application/octet-stream to get direct access to the binary for series and instances.
- Look at Appendix Y in Part 4 for a description of the mechanisms for accessing frames.
- Remove WADO:XPath parameter from metadata resource since it is small enough to send over and let the client parse it.
- Supplement 157 is rejecting the notion of normalized metadata and instead are refactoring into common chunks that can be returned as a multipart response.
- Open Issues
  - ▶ Multipart Mime vs Zip
    - ▶ When requesting a study, series, or instances, the data can be returned as DICOM objects or multipart mime containing XML and/or binary.
    - ▶ Question was asked whether the return format could be zip (specifically the Mozilla Archive Format or MAFF)
  - ▶ Security for RESTful web resources must be addressed. Possible solutions might be Kerberos tokens for local authentication, Shibboleth SAML assertions and tokens for cross enterprise authentication/authorization, or the use of OAUTH.

Discussion: Decision to use Multipart Mime since it is an established standard where MAFF is still in review.

#### NEXT STEPS:

- Time will coordinate with D Clunie on harmonizing this Sup with Sup 157.

- WG-06 asked about the status of coordinating RESTful interface with QIDO. Tim noted that Larry Tarbox is looking to collect use cases.
- Incorporate comments into slides and begin editing of draft DICOM 2012 documents.
- Present progress at WG-27 Meeting at HIMSS 2012
- Work with WG-06 to open a Supplement number for WADO RESTful API.

**OTHER ISSUES:**

David was prompted by this discussion to suggest that DICOM needs to look at more efficient ways of transferring SR data and enabling simpler transfer for smaller SR data sets. Rob suggested coordinating this activity with WG-20/ H. Solomon’s CDA template work.

The Supplement will **return** to WG-06.

**13. Supplement 121 – Modality Procedure Plan and Protocol Storage {WI 2006-04-E}**

The purpose is to produce text for Public Comment. K. O’Donnell continued to review the Supplement. Kevin also reported on the sense of consensus on the CT protocol specifications by the AAPM Special Working Group and referenced the AAPM web site: <http://www.aapm.org/pubs/CTProtocols/#ta>

The Supplement will **return** to WG-06.

**14. Supplement 157 – Multi-Frame Converted Legacy Images {WI 2011-09-A}**

D. Clunie reported on the status of the Supplement (see minutes of the Ad-Hoc on Jan. 23, 2012. He specifically reported on conversion-encoding issues and query-retrieval issues.

The Supplement will **return** to WG-06.

**15. Future Meetings**

The Group’s future meeting dates and locations are as follows:

- Meeting March 26 – 30, 2012 at MITA
- T-con, prior to the June 2012 meeting - TBD
- Meeting June 11 – 15, 2012 in Berlin
- T-con, prior to the Aug. 2012 meeting - TBD
- Meeting August 27 – 31, 2012 in Arlington VA
- T-con, prior to the Nov. 2012 meeting - TBD
- Meeting November 5 – 9, 2012 in Arlington, VA

NEMA management requested DICOM to keep the largest meeting room free for Monday mornings. WG-06 will be accommodating this request by starting with smaller Ad-Hoc Group meetings in smaller meeting rooms, Monday mornings, or by renting a meeting room in a nearby hotel. Unless otherwise noted, meetings on Tuesdays-Fridays are scheduled from 8:30 a.m. to 5:30 p.m. each day.

**16. Next Meeting Agenda**

A detailed agenda for the next meeting (2012 March) will be prepared at a later date. The preliminary agenda plan was prepared and recorded in the Agenda Plan for March 2012, which may be found in the Jan. 2012 meeting folder.

### **17. Adjournment**

The meeting recessed from Jan. 24, 17.30 to Jan. 25, 08.30 and again from Jan. 25, 17.30 to Jan. 26, 08.30 was adjourned at 15.00 on Jan. 26, 2012.

Reported by:

Stephen Vastagh, Secretary  
2012-03-13

Reviewed by counsel: CRS 2012-03-14