IHE-RO Technical Committee
Face-to-Face with Conference call
October 26, 28, 29 2013 at 8:30-5:30 PM ET

Technical Committee Chairs:
Bruce Curran, MS, ME
Chris Pauer, Accuray

IHERO Task Force Co-Chairs
Dick Fraass, Ph.D., FAAPM, FASTRO, FACR
John Buatti, MD

Mission Statement: *The American Society for Radiology Oncology (ASTRO) has formed a multi-society Task Force to undertake an initiative to promote the Integration of the Healthcare Enterprise (IHE) – Radiation Oncology (RO), fostering seamless connectivity and integration of radiotherapy equipment and the patient health information systems. The Task Force will include members from ASTRO, RSNA, American Association of Physicists in Medicine (AAPM), the American College of Radiology (ACR) and the Medical Imaging and Technology Alliance (MITA). In addition, members of the International community have also been invited to participate in IHE-RO. The IHE-RO Task Force, in close collaboration with radiotherapy product manufacturers, will develop appropriate integration profiles for radiation therapy and setup a demonstration of seamless communication among the full array of radiotherapy products.*

Topics List

- Saturday October 26
  - 8:30-9:00 Settling and Setup
  - 9:00 – 12:30 Morning Session
    - Call to Order
      - Discuss Agenda for Morning.
      - Approval of minutes from September Meeting.
      - Other broad topics to add.
    - Topic 1:Discuss activities from Domain Pre-Tesing
      - Support Activities
        - Gazelle - Demo
        - How should system configuration be documented for testing?
        - Transport Level profile and Storage Transperancy – more explicit version of archive testing, will define data transport and storage transparency and test it.
        - Related: Action (9/13): Removing archive from profiles.
        - Other Judges issues
      - Pre-Testing Positives / Negatives
      - Anything to adjust for Connectathon / Next Year
      - Related Items from past discussion (reminders, but we'll discuss appropriate topics):
        - Judging trial run at Pre-Testing
        - Gazelle work
    - Other Group Updates – Any news from DICOM, ASTRO,IHE, others
    - Topic 2: Testing with IHE at Connectathon
  - 12:30 – 1:30 Break
  - 1:30 – 5:30 Afternoon Session
    - Topic 3: Discuss Requirements for Test Tools Service Contract

- What is most important service(s) of the Service Contractor?
- How expert do they need to be?
- What kind of roles would they play?
- What does company / TC contact look like?
- How do we manage work assignments?
- Hosting of services: test tool access online?
- Others….

- Topic 4: CT Sim
- Topic 5: One Pagers
  - Intra-Departmental Prescription Profile One Page
  - Cross-Departmental (HL7) profile
  - ARTI - Jim
  - BRTO – Jim
  - DPDW - Uli
  - DCOM- Walter
  - IPDW - Uli
  - MMRO - Bruce
  - MMRO-II - Bruce
  - QAPV - Chris
  - TDW – Uli
  - Treatment Delivery Plan Content (TDPC) – Uli
  - Q/R - Christof
- First Day Open Slot Stuffers
  - Action(9/13): Bruce and Chris to communicate TC Resoluation to Amber/PC
  - Action(9/13): Bruce to submit Connectathon dates next year
  - Action(9/13): Uli and Christof to request guidance from Radiology Domain on re-use of Transactions
  - Retiring the Varian 80 Leaf machine for testing
  - Remove Archives from profiles
  - Upgrade DCOM to 2011, for Spatial Reg.

- Monday October 28
  - 8:30 – 1:00 Morning Session
    - Topic 6: Science Council Topics
    - Topic 6.5: Machine Characterization
    - Topic 7: Profile Dependencies (and BRTO)
      - BRTO – How does dosimetric planner apply to ARTI producer/consumers?
      - Does this require retest / further testing?
      - BRTO – dosimetric planner cross reference registered compositing planner in DCOM – do we want to test to that?
      - Successor to BRTO
      - Action(9/13): Draft CP for BRTO regarding "Referenced Fraction Group Sequence" entry (Bruce) – to be presented after Domain Pre-Testing
  - 1:00-2:00 Break
  - 2:00 – 5:30 Afternoon Session
    - Topic 8: Review DCOM
    - Topic 9: Review ARTI / Treatment Planning – Plan Content (TPPC)
- Tuesday October 29
  - 8:30 – 1:00 Morning Session
    - Topic 10: TDW-II

- Action(9/13): Uli to sort out the Concept Code for Treatment Delivery Type with WG-6

- 1:00 – 2:00 Break
- 2:00 – 5:30 Afternoon Session
  - Topic 11: Metrics for measuring success of Test Tools Support Contract
  - Topic 12: Future Meetings / Next Agenda

ATTENDEES

Name	Affiliation	Thu 10/26/13	Fri 10/28/13	Sat 10/29/13
Chris Pauer	Accuray	X	X	X
Walter Bosch	Wash. Univ. / ATC / IROC	X	X	X
Bruce Curran	Brown Univ./ASTRO	X	X	X
Sanjay Bari	Elekta	X	X	X
Christof Schadt	Brainlab	X	X	X
Uli Busch	Varian	X	X	X
Koua Yang	Philips	X	X	X
Jim Percy	Elekta	X	X	X
Harold Beunk	ICT	X	X	X
Sven Siekmann	Brainlab	X	X	X
Bill Bennett	Washington Univ. / ATC	X	X	X

X = in person

Minutes

I. Call to Order 10/26/2013 @ 9:20 am – A quorum was declared

II. Attendance and Meeting Rules were stated.

III. Setting of Agenda

A. Approval of Agenda – Added Machine Characterization (Koua) – Approved without objection

B. Approval of Minutes from Sept. 26, 2013 TC Meeting at ASTRO – Approved without objection.

IV. Domain Pre-Testing Issues – 10/26/2013

A. Gazelle Demo – The Gazelle IHE test support system was reviewed.

i. Walter Bosch and Bill Bennett provided an update on Washington Univ./ATC support including evaluation/prototyping of Gazelle for the IHE-RO domain. A prototype configuration of ARTI Profile tests using the Washington University instance was reviewed. Vendors can register Systems (which fulfill stated Roles in Profiles) for testing. Monitors accept the registered systems for testing. Vendor users then create test instances by selecting test partners and collecting evidence that they present for verification by monitors as they execute test steps.

ii. Gazelle is being evaluated for certification under ISO 17025.

iii. Discussion of testing policy and requirements for sufficient fan-in/fan-out. To what extent can "validated" data from previous tests be used as an alternative to testing with live peers? Concern was expressed about maintaining sufficient independence and diversity in test data. Discussion of the role of Test Tools and datasets used for Connectathon qualification.

B. How and where should system configuration be documented for testing? in the vendor's Integration Statement?
    i. Validity of tests depends on version of systems and configuration. Test personnel should note these before testing their systems.
C. Data Transport and Storage Transparency – more explicit version of archive testing for peer-to-peer data transfer, will define criteria for reliable data transport and transparent storage of data objects and permit testing of archives and other Actors.
    i. This approach could define separate Data Transport, i.e., Association Negotiation, and Storage Transparency Profiles on which other content profiles would be dependent. An (optional) Query/Retrieve profile could also be linked to content profiles.
D. Removing archives from profiles
    i. A topic related to data transport is removal of archive(s) and addition of dependency on data transport profile in revised content profiles, e.g., "BRTO-II".
    ii. ACTION: Bruce to issue a call for participation in a Data Transport working group to develop Storage Transparence and Negotiation profiles (see ACTION from Monday 10/28, below).
E. Other Judges Issues
    i. Several clarifications of the ARTI Profile were noted.
    ii. It is unlikely that TDW-II testing would take place in the April 2014 Connectathon. Thus, development of TDW-II test tools could be deferred to May/June 2014.
    iii. A prototype tool to test association negotiation was evaluated with archives. Configuration issues were discovered with one of these.
F. Pre-Testing Observations
    i. Numerous peer-to-peer exchanges occurred for informal testing of participants' systems.
    ii. A question was raised regarding how to capture limitations observed in the implementation and testing of Profiles. Care must be exercised in publicizing vendor-specific issues. It is best to include these as issues in the profile during Trial Implementations. At the Final Text stage a companion document can be created to document these issues.
G. Other Group Updates
    i. Uli Busch updated the group on DICOM WG-7 activities. Supp 147 is in 2nd reading in WG-6. A CP to incorporate a Concept Code for the Treatment Type parameter used with worklist in IHE-RO.
    ii. Bruce Curran presented an update from ASTRO, IHE, others.
        1. IHE-RO is now under the ASTRO Science Council. A request for symposium topics has been issued (to be discussed later in the meeting).
        2. An update on the status of the Radiation Oncology Institute National Radiation Oncology Registry was presented.
        3. ASTRO is seeking to be recognized as a certified testing laboratory for regulatory purposes. (FDA would like to leverage IHE-RO testing for its product evaluation.)
        4. Both 2014 IHE-RO test events have been approved for formal testing by IHE.
        5. The RO Safety Stakeholders Initiative has issued a Prescription Proposal.

[Break for lunch at 12:30]

V. Afternoon Session – 10/26/13 at 2:00 pm
A. Requirements for Test Tools Service Contract
    i. Test Tools Service Provider Responsibilities
        1. Tools easily available

2. Available a good time before test events
3. Issues resolved in a controlled manner
4. Validation metrics
5. Access to problem tracking
6. Minimum time of response
7. Tracking responses from vendors
8. Time requirements are key
9. Support contract vendor attend and build requirements

ii. IHE-RO TC Responsibilities – the TC needs to do a better job of working as sub-groups on individual profiles to define requirements and provide feedback to test tool contractor

1. Manage requirements – need to prioritize
2. Has to be responsive to test, validation periods
3. Requirements have to be at a level more detailed than the profile contents
4. Contract group (main, backup, reviewer) for each profile
5. Prioritization of backlog items

B. IHE-RO Technical Framework Editorial changes

i. TC is responsible for assigning a Chapter Number for inclusion of Profiles into the Technical Framework.

ii. A spreadsheet listing current and proposed Profiles with TF chapters and status is to be posted under Other Documents on wiki.ihe.net.

iii. One-page Profile Overview is needed for each existing and proposed IHE-RO Profile for **wiki.ihe.net**

iv. The IHE-RO Steering Committee has also requested a *Clinically Relevant* one-page description of each profile.

C. CT-Sim Profile - now Consistent Patient ID in Radiation Oncology (CPRO)

i. Work has commenced in Health Informatics Cmte of ASTRO on a white paper on information exchange between TMS and HIS.

ii. The method to be used for communicating patient ID to CT-Sim was discussed: UPS or Modality Worklist (MW). MW is well-implemented in CT Sims, but limited in capability. UPS is forward-looking and more capable, but not yet widely implemented by CT Sim vendors. The IHE Radiology Post Acquisition Work Flow (PAWF) Profile may be useful.

iii. ACTION: Bruce to issue a call for participation in a work group to evaluate the available technologies for CT-Sim and identify relevant, existing IHE profiles to address this Use Case.

D. Review One-Page Overview of Profiles

i. Template is available on Profiles page on ihe-ro.org site
(see http://ihe-ro.org/doku.php?id=doc:profiles)

ii. Prescription in Radiation Oncology (RXRO)

1. A draft one-page summary of the Prescription profile was reviewed and edited in the TC.
2. This profile requires implementation of 2nd Generation DICOM RT objects. Time to clinical implementation is expected to be 3-5 years.

iii. Basic RT Objects (BRTO)

iv. Quality Assurance with Plan Veto (QAPV)

E. Proposals
   i. ACTION: Update planning instructions (remove V80 machine) for BRTO, ARTI, DCOM for March 1, 2014
   ii. ACTION: Update Test Tool Data Sets to include plans with V120 and remove V80 plans for March 1, 2014

F.
   i. ACTION: Collect a list of profile-adherent, legal variations in test data
      1. Feet-first plans on head-first scans (Jim Percy to supply initial data)
      2. Non-square dose grids, non-uniform grid-frame offsets

G. Proposal to upgrade DCOM to DICOM 2011 for REG.
   i. DCOM profile is currently in Trial Implementation. It is proposed to upgrade it prior to moving to Final Text. Change the use of RO-13 to MMRO-II version of the Utilize Spatial Registration transaction.
   ii. It is believed that all tested systems have already implemented DICOM 2011 (primary impact is Image Reference Sequence).
   iii. This change does not change any other attributes. Specifically new attributes and defined terms in the Dose Modules (see DICOM CP 1248) are not addressed.
   iv. NOTE: Test tools and test datasets may need to be updated to be consistent with this change.
   v. ACTION: Bruce to circulate the proposal to upgrade DCOM Profile to use DICOM 2011 and new MMRO-II version of the Utilize Spatial Registration Transaction to the IHE-RO TC list for comments.

[Adjourned for the day at 5:15pm]

VI. Monday Morning Session October 28th – 8:45 am

A. Science Council Topics
   i. How will 2nd Gen DICOM RT objects affect medical physics practice, how to prepare. (This topic has been submitted to AAPM and may be of less interest to ASTRO.)
   ii. Suggestions for ASTRO – symposium(s) covering real-world benefits of IHE-RO profiles – introduction, value to clinic, value to manufacturers
      1. "2nd Generation DICOM – How will it affect your practice?" Focus on Prescription and Workflow, support for new imaging and segmentation modalities
      2. "Improving Safety through IHE-RO Profiles" – Intro / Value to clinic / Value to manufacturer – QAPV, MMRO, other profile?
      3. Mobile DICOM? – probably too early, lack expertise in TC
      4. IHE-RO: How does it benefit clinical practice? increase awareness of IHE-RO among clinicians, cost/benefit of IHE-RO process – ASTRO investment in clinical safety, efficiency – Cost?
   iii. ACTION: Bruce to draft proposals for symposia, suggest topics to IHE-RO PC

B. Machine Characterization
   i. The scope of machine characterization is broader than IHE-RO testing. The intent is to define a standard for configuring machine profiles in treatment planning or other systems that interface to delivery systems. Avoids manual adjustment for different machine types.
   ii. DICOM includes infrastructure, e.g., hanging protocols, for representing non-patient-centric data.

1. Concerns expressed that the scope of content and degree of detail is not yet fully determined. This could require iterative revision until the content is stable.
2. XML may not be easier to specify than DICOM.

iii. Requirements discussed:
1. Readable / parsable content and format that all manufacturers can adopt
2. Input to automatic initial configuration or reconfiguration
3. Need to address the ability to amend configurations for machine upgrades, etc.
4. Has to support the concept of an immutable / approved machine characterization, support validation of content of characterization, and possibly including support for Unique Device Identifier (UDI).

iv. Some concern was expressed that the effort required will be very large and should be reconsidered. The role and scope of the machine characterization should be carefully defined in advance.

v. ACTION: Koua to present IHE-RO suggestions to MITA RT Section Machine Characterization Group

C. Profile Dependencies (and BRTO) – Bruce Curran reviewed Required Actor Groupings in the new IHE profile document format. Require Actor Groupings specify, e.g., that the group of actors that fulfills the role (implements all required transactions) of Actor1 in Profile1 must also fulfill the role (implement all required transactions) of Actor2 in Profile2.

i. BRTO – How does BRTO Dosimetric Planner apply to ARTI producer/consumer – possible problems were noted in requiring that ARTI producers accept Geometric Plans.

ii. Does this require retest /further testing? – Dependencies apply to future profiles, and may require additional testing

iii. Successor to BRTO – discussion of proposals to revise the BRTO profile
1. Remove requirement to accept multiple image Series on input and remove (or make optional) the transaction to store resampled images
2. Remove Archive Actor – Consensus that this would require Negotiation and Storage Transparency Profiles as a prerequisite. Simple and Advanced Query/Retrieve profiles could be added later.
3. ACTION: Bruce to solicit members for a Data Transport sub-group (Christof has volunteered to lead this group.)

iv. Proposed Change Proposals to BRTO were presented by Bruce, discussed and revised by the TC:
1. CP-RO-2013-1. Remove requirement for Referenced Fraction Group Sequence
2. CP-RO-2013-2. Change ROI Interpreted Type from O+* to R+*; remove comment referencing ROI Interpreter.
3. CP-RO-2013-3. Remove requirement for copying the Frame of Reference UID (change to "NA" for RT Structure Set); modify note 2 to indicate that *In the Structure Set Module, the Frame of Reference UID (0020,0052) shall be copied to the Frame of Reference UID (0020,00052) attribute in the Referenced Frame of Reference Sequence (3006,0010).* Modify Attribute Note for Frame of Reference UID to remove "Structure Sets,"; Add updated Note 2 (from Table A.1-1) to Table A.3-4.
4. CP-RO-2013-4. Add explanatory text regarding requirements in profile
5. CP-RO-2013-5. Add introductory text regarding multiple image series, variable image slice spacing and dose grid spacing.
6. ACTION: Bruce to post the revised BRTO CPs on ihe-ro.org

D.

[Break for lunch at 1:00pm]

VII. Afternoon Session – 10/28/13 at 2:00 pm

A. Review of DCOM Profile Open Issues:

i. Removed references to "Prior" dose in two places to close an open issue #1.

ii. Can Transactions be described without explicit references to the specific Actors of this Profile (to facilitate their future re-use)? It is not clear how to do this and keep the transactions the relevant to this profile. For example if there is a Dose Consumer actor to generically exchange dose, should there not be one for each of the relevant transactions (SSet, etc.) and how would the DCOM actors be defined?

iii. IHE Structure for Profile-independent Transactions

1. IHE Quality Group (RFD) has some experience with a generic form filler and a form requester. It is defined using the HTML <*context*> tag to incorporate
2. Example: Patient Care Device – Device/Enterprise Communication. A Container is a hierarchical message in which higher-level containers define what can be contained within them.

iv. The proposed change to define a generic transaction would likely involve a major restructuring effort. This would significantly delay the affected Profiles (DCOM, ARTI, …). More research is warranted to evaluate this approach. Current goal is research further and make a decision in a year.

v. Begin by restructuring BRTO to better allow profile neutral transactions

1. Define a transaction set that can be re-used
2. Transform Appendix A into multiple pieces and separate out (transaction) content into Part 3. One appendix for non-RT modules. Perhaps a separate appendix for each profle.
3. Module tables for Plan and Dose are not up-to-date.

B. Review of TDW-II Profile Open Issues

i. UPS Progress Update Message

1. Three updates are required: 0%, some value >0 and <100%, and 100%
2. What is the expected behavior of the Beam Number and Percent Progress in the Progress Update Message? No strong argument for keeping the Beam Number could be found. ACTION: Uli to remove Performed Processing Parameters Sequence in the UPS Performed Procedure Sequence of TDW-II.

ii. Default Character Sets for Query Keys

1. Add Appendix A to define requirements for at least the Default Character set and ISO-IR 100 (Latin-1) in all transactions. May be extended according to actors' conformance statements.

iii. Storage Actor: TMS versus OST.

iv. Clarification of header (patient ID, demographics, etc.) for Treatment Records – does the header information come from the RT Plan and Treatment Delivery Instruction that comes from the TMS or from the local copy of the RT Plan stored in the TDD?

1. DECISION: (Section 3.63.4.1.2) The Patient Header data shall contain information in the SOP instances that are received from the OST (see section 9.5). I.e., Patient identification in the Tx Record must match identification provided by the TMS. ACTION: Uli to update TDW-II Profile to clarify Tx Record patient header data.

v. Code for Treatment Type (in Scheduled Processing Parameters) with values of TREATMENT and CONTINUATION. Further work to be deferred to Feb 2014 IHE-RO F2F meeting.

[Adjourn for the day at 5:30pm]

VIII. Morning Session – 10/29/13 at 8:40 am

A. Review of Re-structuring Project discussion from 10/28/13 afternoon
   i. Storage Transparency Profile
   ii. Transfer ("Negotiation") Profile
   iii. Re-use of Transactions

B. Profile Priority List – need brief Clinical Impact / Relevance Statement (1 page)
   i. Prescription (start with ROSSI document)
   ii. Deformable Registration
   iii. TDPC

C. Profile Documents
   i. **IHE Profile Overview** (wiki.ihe.net) – for IHE International Board, drives IHE product registry
   ii. **ASTRO Clinical Impact Statement** – "one pager" for ASTRO Steering Committee and Clinical Advisory Committee - usefulness of Profiles for clinicians
   iii. **ASTRO Theory of Operations -** ~5 page white paper / manuscript for publication (for academic and regulatory purposes)
   iv. **Profile Proposal**
      1. **Brief Proposal Document** – wiki page (Process → Profile Proposal Process at wiki.ihe.net) Summary, Problem, Use Case – submitted to/developed by PC
      2. **Detailed Proposal Document** – wiki page (Process → Profile Proposal Process at wiki.ihe.net) Summary, Problem, Use Case – response from TC to brief proposal document with technical assessment
   v. **Change Proposals** – linked on ihe-ro.org profile page

D. Web sites
   i. **www.ihe.net** – maintained by IHE
   ii. **wiki.ihe.net** – maintained by IHE-RO Planning Committee - the RO Domain page is badly out of date
   iii. **ihe-ro.org** – maintained by IHE-RO Technical Committee – profile development and testing support

E. ARTI Profile – review of pending changes.
   i. Updated profile documents on ihe-ro.org
      1. Spreadsheet v1.4 has been updated
      2. Supplement v.1.4 (clean) has been revised with hyperlinks.
   ii. Updates include the following issues
      1. High Dose Technique
      2. Clarify meaning of R+ and R+*
      3. Reformat spreadsheet as whitepaper (spreadsheet is in final form)
      4. Block thickness and material ID is currently used (ARTI) rather than transmission. No change for now. May be revisited for ARTI-II

5. Source-Wedge Tray distance is only relevant for hard wedges. Remove requirement (blank on spreadsheet = DICOM requirement only) for dynamic and motorized wedges.
6. Dose Rate for non-arc plans. Dose rate is labeled as nominal for VMAT, constant otherwise. No change is needed.
7. Define SSD. What does SSD mean when a bolus is present? Entry point on bolus? Entry point on skin? Variation in clinical practice: setup with or without bolus in place. No change to profile.
8. Setup beams are out of band.
9. Implicit requirement that Setup Module be present to be clarified in the ARTI appendix
10. High dose technique: if present must be handled safely
11. Fluence Mode beam modifier: moved to TPPC
12. Add requirement of R+ for Beam Meterset in all Beam Techniques.

iii. ACTION: Gantry Pitch Angle (300A,014A) – change Specific Rules from "If not present, shall be assumed to be nominal position, If present, may not be ignored." to "If not present, shall be assumed to be zero. If present, shall be zero." (Zero angle = no rotation.)

iv. ACTION: For attributes Table Top Eccentric Angle (300A,0125), Table Top Pitch Angle (300A,0140), and Table Top Roll Angle (300A,0144), change Specific Rules to "Shall be zero."

F. TPPC Profile

i. Christof has created a draft version of the TPPC Profile, derived from ARTI. ACTION: Christof to incorporate changes from ARTI into the TPPC draft for distribution to TC by the end of 2013.

G. More discussion of how to structure transactions

i. IHE Radiology Domain defines transactions involving functional transformations as "self-transactions", i.e., a single Actor is both the producer and consumer. Separates (internal) data transformation and transport.

H. Breakouts to work on Clinical Impact Statements

i. Assignments: + indicates break-out group
1. + Intra-Departmental Prescription Profile – Sven/Bruce/Jay
2. + Cross-Departmental (HL7) profile – Koua/Chris
3. ARTI - Jim
4. BRTO – Jim
5. DPDW - Uli
6. DCOM- Walter
7. IPDW - Uli
8. MMRO - Bruce
9. MMRO-II - Bruce
10. QAPV - Chris
11. TDW – Uli
12. + Treatment Delivery Plan Content (TDPC) – Uli/Sanjay
13. + Q/R – Christof/Bill/Walter

ii. Add profile expected completion date, expected implementation date to template

[Break for lunch 1:00pm]
[Resume meeting at 2:00 pm]

iii. Continued discussion of draft Clinical Impact Statements
iv. ACTION: Bruce to solicit participants for a working group for TMS to HIS communication.
v. ACTION: Editors of Clinical Impact Statements to post them on the Profiles page of ihe-ro.org wiki.
vi. Clinical Impact Statements are needed for the Profiles listed below. ACTION: listed individuals are to prepare drafts by end of first week in Jan 2014.
    1. QAPV - Chris
    2. CT-Sim - Bruce
    3. DEFR – Bruce
    4. MMRO-III - Christof
    5. DCOM - Walter
    6. ROIT - Walter
    7. IPDW – Uli
    8. DPDW – Uli
    9. TDW, TDW-II – Uli
    10. TPPC – Christof
    11. TPIC – Uli

IX. ACTION: Chris to draft Test Tools RFP for Nov 6.

X. Teams for Profile Work: Main Author, Co-author, Reviewer

Profile	Main Author	Co-Author	Reviewer
ARTI	Bruce Curran	Christof Schadt	Jim Percy
BRTO	Bruce Curran	Jim Percy	Koua Yang
CTSIM			
DEFR	Chris Pauer	Walter Bosch	Bruce Curran
DPDW	Uli Busch	Christof Schadt	Sanjay Bari
DCOM	Walter Bosch	Bruce Curran	Christof Schadt
IPDW	Uli Busch	Sanjay Bari	Chris Pauer
MMRO-II	Bruce Curran	Hakan McLean	Paul Jacobs
MMRO-III	Christof Schadt	Hakan McLean	Paul Jacobs
RXRO	Sven Siekmann	Uli Busch	Bruce Curran
QAPV	Chris Pauer	Eli Stevens	Bill Simon
QRRO	Christof Schadt	Bill Bennett	Walter Bosch
ROIT	Walter Bosch	Bruce Curran	Uli Busch
TDIC	Uli Busch	Christof Schadt	Sanjay Bari
TDPC	Uli Busch	Sanjay Bari	Chris Pauer
TDW	Uli Busch	Bruce Curran	Sanjay Bari
TDW-II	Uli Busch	Sanjay Bari	Chris Pauer
TPIC	Uli Busch	Jim Percy	Christof Schadt
TPPC	Christof Schadt	Jim Percy	Uli Busch, Bruce Curran

XI. Future Meetings
A. IHE-RO Meetings

i. IHE-RO 2014 Q1 TC Meeting - Feb 24-28 (4.5 days) – Tentatively in San Diego, CA
ii. IHE-RO Connectathon, Fairfax, VA - Apr 28–May 3, TC mtg May 5-6(7?)*
iii. IHE-RO Post-ASTRO TC meeting, Sep (17?)*18-20, San Francisco
iv. IHE-RO Domain Pre-Testing – Oct 6-14(15?)*, *tentatively Baden, Switzerland*
* Consider extending TC meetings after ASTRO, and test events.

B. Other meetings through 2014
i. Nov 18-22, 2013 DICOM WG-7, Washington, DC
ii. Jan 6-10, 2014 DICOM WG-6
iii. Jan 22-28, 2014 DICOM WG-7 Ion Group
iv. Mar 24-28 WG-7, TBD (*Vienna?)*
v. Mar 31 WG-6, Vienna
vi. Apr 4-8 ESTRO, Vienna (possible meeting with IEC)
vii. Jun 8-14 PTCOG, Shanghai
viii. Jul 20-24 AAPM, Austin, TX
ix. Jul 24-26 DICOM WG-7, Austin, TX
x. Sep 14-18 ASTRO, San Francisco, CA
xi. Nov 3-7 DICOM WG-7, Washington, DC

XII. Meeting adjourned at 5:20pm