Minutes

Discrete Positioning and Delivery Workflow (DPDW)

Conference Call

June 28, 2016

11:00am – 12:05pm EST

DPDW Subgroup Chair:

Thomas Schwere, Varian Medical Systems  
([thomas.schwere@varian.com](mailto:thomas.schwere@varian.com))

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.*

**In Attendance:**

Thomas Schwere (Varian)

Istvan Matyas (Siemens)

Harold Beunk (ICT)

Chris Pauer (Sun Nuclear)

David Wikler (IBA)

Sanjay Bari (Elekta)

# Call to Order

The meeting was started at 11:00am EST.

# General Topics

## How to move forward

The chair mentioned that there was no progress regarding the UPS service extensions during the DICOM WG-06/WG-07 May meetings in Munich. Those extensions are actually only needed in the monitoring scenarios. Therefore an option would be to focus on DPDW 1 (Workflow Frame), 2 (Positioning), and 3 (Delivery) sub-profiles and to skip DPDW 4 (Monitoring) sub-profile in a first version of the profile. David mentioned that there are a lot of optical systems around and we should not exclude those from the profile. Harold supported David's statement as well and argued that the monitoring scenarios are actually much simpler using the new concept having a set of UPS/Instructions per patient position. The group agreed on keeping DPDW 4 sub-profile in the profile. Nevertheless the group shall first focus on DPDW 1, 2 and 3 sub-profiles and shall work out those transactions in detail (together with the appropriate instruction objects in DICOM Supplement 160).

## Walk through updated sections in current version of DPDW profile

The chair started updating the profile along the new concepts as discussed during the last TCons. He walked the group through the updated sections of the profile (still in a preliminary state though). The following items were discussed in more detail:

Actor's subscription and notification of Starting Session (Figure 2.4-1 and 2.4-4)

Harold mentioned that the subscription could also be a "subscription by design" meaning that TSM knows the actors participating in a given treatment room setup and could actually use that information to notify the actors about the start of a treatment session (without requiring the actors to subscribe in advance). While receiving that notification the actors will subscribe on TSM to receive notifications about new UPS scheduled for them (providing a filter using Scheduled Station Name). This subscription would actually be used as an indication that the actors are ready to perform the session (disadvantage: how long should the TSM wait for those subscriptions?).

Retrieve Device Position Information RO-DPD-201

There are currently only proposals around how this transaction could be implemented using concrete protocols. The profile currently lists to use the RT Device State Storage SOP (from DICOM Supplement 160) for that purpose (using C-FIND from the PPAS to the PPD following a C-MOVE to actually retrieve the device position). This is rather complex to simply get a few numbers representing the device position (e.g. six axes in case of a couch).

Harold proposed to use a "Device Position" UPS (with session scope) performed/owned by the PPD and to which the PPAS is subscribed to. PPD would update that UPS with the actual device position whenever the device position changes. Because of subscription the PPAS gets notified about the change and can get the details using N-GET. It's not really clear though how to convey the device position in the UPS (e.g. Performed Processing Parameters Sequence). Thomas will follow up on this one.

## Status of DICOM Supplement 160

Not discussed.

# Process / TCons / Meetings

## Next DPDW TCon

Tuesday, July 26, 2016: 11:00am – 12:10pm EST.

# Adjournment

The meeting was adjourned at 12:05pm EST.

Appendix A: Administration and Process Information

Documents are published at the following locations. If you have problems in accessing the document, please contact the Chair ([thomas.schwere@varian.com](mailto:thomas.schwere@varian.com)).

## Process of Authoring:

Steps:

1. Download a local copy of the document from locations below
2. Open this copy and remove all change bars
3. Ensure, that Changes Bars are switched on
4. **Make your changes**
5. Provide the updated version to the Chair

## Location of Documents:

DPDW Subgroup Minutes

<http://wiki.ihe.net/index.php?title=RO_DPDW_WorkingGroup>

DPDW Profile

The DPDW Profile is an IHE-RO document.

The current version is available in the IHE-RO Org Wiki:

<http://www.ihe-ro.org/>

Please find the current document under this page:

<http://www.ihe-ro.org/doku.php?id=doc:profiles>

Supp 160

DICOM Supplement 160 (Patient Positioning and Workflow) in s DICOM WG-07 document.

The current version is available at the DICOM ftp server:

<ftp://d9-workgrps:goimagego@medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/WG07/Sup/Sup160_PatientPositioningAndWorkflow>

## Mailing List:

The mailing list for the DPDW subgroup is:

[iherodpdw2015@aapm.org](mailto:iherodpdw2015@aapm.org)

Appendix B: Task Assignments

Per end this TCon (2015-01-27).

| **No** | **TX / Area** | **Old Number** | **Title** | **Group** | **Owner** |
| --- | --- | --- | --- | --- | --- |
| 1 | ./. | ./. | Use Case Delivery-Device Independent Imaging |  | David Wikler |
| 2 | RO-DPD-200 | RO-DPD-01 | Worklist Query for Positioning Acquisition | Acquisition | Martin Vonach |
| 3 | RO-DPD-201 | RO-DPD-02 | Retrieve Device Position Information | Acquisition | Martin Vonach |
| 4 | RO-DPD-202 | RO-DPD-03 | Request RT Patient Position Correction | Correction | Martin Vonach |
| 5 | RO-DPD-203 | RO-DPD-04 | Store RT Patient Position Modification Instruction | Correction | Martin Vonach |
| 6 | RO-DPD-204 | RO-DPD-05 | Store RT Repositioning Results to Object Storage | Correction | Martin Vonach |
| 7 | RO-DPD-205 | RO-DPD-06 | Worklist Query for Repositioning | Correction | Martin Vonach |
| 8 | RO-DPD-206 | RO-DPD-07 | Notify on Radiation Delivery Status Change | Delivery | Thomas Schwere, Sanjay Bari |
| 9 | RO-DPD-207 | RO-DPD-08 | Retrieve RT Patient Position Correction Instruction | Correction | Martin Vonach |
| 10 | RO-DPD-208 | RO-DPD-09 | Subscribe/Unsubscribe to Treat UPS Status | UPS Notification | Thomas Schwere |
| 11 | RO-DPD-209 | RO-DPD-10 | Notify on Radiation State | Delivery | Thomas Schwere, Sanjay Bari |
| 12 | RO-DPD-210 | RO-DPD-11 | Retrieve Positioning Acquisition Results | Registration | Chris Pauers |
| 13 | RO-DPD-211 | RO-DPD-12 | Worklist Query for Positioning Registration | Registration | Chris Pauers |
| 14 | RO-DPD-212 | RO-DPD-13 | Worklist Query for Position Monitoring | Monitoring | Stephen Phillips |
| 15 | RO-DPD-213 | RO-DPD-16 | Store Monitoring Results to Object Storage | Monitoring | Stephen Phillips |
| 16 | RO-DPD-214 | RO-DPD-17 | UPS Final Update at Session Termination | Framework | Thomas Schwere, Sanjay Bari |
| 17 | RO-DPD-215 | RO-DPD-18 | UPS Completed / Cancelled at Session Termination | Framework | Thomas Schwere, Sanjay Bari |
| 18 | RO-DPD-216 | RO-DPD-19 | Indicate Ready for Monitoring | Monitoring | Stephen Phillips |
| 19 | RO-DPD-217 | RO-DPD-20 | Notify Device to start UPS | UPS Notification | Thomas Schwere, Sanjay Bari |
| 20 | RO-DPD-218 | RO-DPD-21 | Create Positioning Acquisition and Positioning Registration UPS | Workflow | Thomas Schwere |
| 21 | RO-DPD-219 | RO-DPD-22 | Create Treat UPS and Radiation Delivery Instruction for Continuation | Workflow | Thomas Schwere |
| 22 | RO-DPD-220 | RO-DPD-23 | Notify Treatment Session Actors on Starting Session | UPS Notification | Thomas Schwere, Sanjay Bari |
| 23 | RO-DPD-221 | RO-DPD-24 | Notify Device to stop UPS | UPS Notification | Thomas Schwere, Sanjay Bari |
| 24 | RO-DPD-222 | RO-DPD-25 | UPS Progress Update for Discrete non-Treatment Steps | UPS Notification | Thomas Schwere, Sanjay Bari |
| 25 | RO-DPD-223 | RO-DPD-26 | Worklist Query for Positioning Correction Reconciliation | Registration | Chris Pauers |
| 26 | RO-DPD-224 | RO-DPD-27 | External Verification | External Verification | Sanjay Bari |
| 27 | RO-DPD-225 | ./. | Notify Device to resume UPS | Monitoring | Stephen Phillips |
| 28 | RO-DPD-226 | ./. | Create new Positioning UPS | Monitoring | Stephen Phillips |
| 29 | RO-DPD-227 | ./. | UPS Final Update after Positioning Information Acquisition | Workflow |  |
| 30 | RO-DPD-228 | ./. | UPS Final Update after Treatment Interruption | Workflow | Thomas Schwere |