Minutes

Discrete Positioning and Delivery Workflow (DPDW)

Conference Call

November 22, 2016

11:00am – 12:00pm 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:**

Antonella Patio (Astro)

Carla Hull (AAPM)

Thomas Schwere (Varian)

Harold Beunk (ICT)

Chris Pauer (Sun Nuclear)

David Wikler (IBA)

Istvan Matyas (Siemens)

# Call to Order

The meeting was started at 11:00am EST.

# Process / TCons / Meetings

## Next TCon

The chair asked if the TCon on 27th December 2016 could be moved to the 20th December. Because of conflicting TCons on that day the group decided to cancel the December TCon. The regular DPDW TCons will continue with the TCon on 24th January 2017. During that TCon we will check if it's possible to have the DPDW TCons half an hour earlier, i.e. 10:30am to 12:00pm EST.

# Design Topics

## RO-DPD-217 (Notify Device to Start UPS)

The chair proposed to use the "UPS Assigned" event report as a trigger for the actor to start performing a UPS instead the creation/exposure of a UPS. This event is raised whenever the UPS is assigned to a particular actor by setting the Scheduled Station Name Code Sequence. This assignment will be done by the TSM whenever a UPS becomes ready for execution along the use case definitions.

Even though this would add more flexibility (e.g. the actor could potentially prepare for the execution of a UPS once it gets the "UPS State" report (SCHEDULED) but only starts its execution once the UPS has been assigned) the group decided to use the existing UPS creation/exposure notification approach as the trigger to start the execution.

## UPS Subscriptions

The group agreed on using UPS subscription by design/configuration. TSM knowing the configured treatment environment (namely the DICOM AE Titles of the actors) is in charge to notify the appropriate actor along the use case specifications in the DPDW profile w/o requiring the actor to explicitly subscribe for the UPS instances or UPS types.

The first usage of subscription by design principle is during session opening when the TSM notifies all participating actors about the upcoming treatment session (see RO-DPD-220). This notification is also used to check if the actors are still alive.

The group also agreed that any heartbeat functionality, i.e. periodically checking the aliveness of the actors, should not be in scope of the DPDW profile (and most likely will be done through other means than the UPS services).

## "Progress Parameters Sequence" CP

The chair updated the group about the status of the DICOM CP about introducing the Progress Parameters Sequence in the UPS Progress Information module. During the last WG-06 meeting the CP got a number: CP1664. Still there was a lot of resistance about that CP even though there was only a short discussion. Uli tries to load it for the Jan 2017 WG-06 meeting agenda.

If that CP is rejected the group discussed to convey the "dynamic information" in the Performed Processing Parameters Sequence together with updating the Procedure Step Progress which in turn raises the "UPS Progress Report" event. Following that notification the interested actor has to do N-GET to get the Performed Procedure Parameters Sequence (which could be omitted with that CP). Harold mentioned that the DICOM standard does not say that the Procedure Step Progress value in the N-SET has to be different from the current value in the SCP for raising the "UPS Progress Report" event. So, we could for example always set it to 50%.

## Revised Monitoring Scenario

The chair walked through the monitoring scenario explaining how the instance UID of the Treatment UPS is passed to the Monitoring UPS (using the Scheduled Processing Parameters Sequence) and vice versa. Using this mechanism the TDD knows that this particular treatment session includes monitoring and an appropriate "synchronization" between TDD and PPMS (through TSM) is needed. The sequence diagram will be distributed together with the meeting minutes. (Note that the sequence diagram still contains explicit subscription which is not needed anymore according to the discussion in 3.2.)

## RO-DPD-201 (Retrieve Device Position Information)

Deferred to next TCon.

# Adjournment

The meeting was adjourned at 12:00pm 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 |