

# IHE-RO DPDW Call

Tuesday, January 24, 2023 10:00am Eastern Time

## Attendees:

Jill Moton (AAPM)  
David Wikler (IBA)  
Harold Beunk (Demcon)  
Bruce Rakes (Mevion)  
Sanjay Bari (Elekta)  
Thomas Schwere (Varian)

## Minutes:

- I. Call to Order at 10:05am ET
- II. David presented the progress on the imaging options in TDW-II:
  - a. Process along the official IHE Brief Proposal Process:  
[https://wiki.ihe.net/index.php/Brief\\_Proposal\\_Template](https://wiki.ihe.net/index.php/Brief_Proposal_Template)
  - b. Link to the presentation on IHE-RO Box:  
<https://aapm.box.com/s/ni0pf2dd7jkg15s61zm2nqu9n36kb120>
  - c. The profile should not restrict the structure set used for patient positioning to be the same as the one used for dosimetric planning. It may well be that the contours required for patient positioning are different than the ones required for planning.
  - d. The group discussed several options for specifying the references to the objects required for the patient positioning activity:
    - i. UPS Input Information Sequence: Reference on image instance level, i.e. listing all slice instances of the image series (or a subset of it required for positioning)
      1. Performance might be negatively impacted, esp. if the TDD performs the queries very frequently (a solution for this is to not include the Input Information Sequence in the query keys when retrieving the overall schedule view in the first place)
    - ii. UPS Input Information Sequence: Reference on image series level
      1. This requires a DICOM CP to support referencing input objects on series level as well
    - iii. UPS Input Information Sequence: Reference first image (and/or last image) and let the TDD infer Series/Study information from this to be able to issue the C-MOVE on series level
    - iv. Get image references implicit from RT Structure Set
    - v. Add a KOS as an additional “container” conveying all required input instances
  - e. The group is heading for an explicit “non-hacky” solution. Option iv is considered non-explicit and option iii is considered “hacky”. Option v is too big of an overhead. So, options i and ii will be further pursued. Discussion will continue in the next meeting.
  - f. Sanjay brought up another problem in cases where multiple registrations were performed: How to know the registration that was actually used for applying the couch correction? The profile should also include a solution for this, e.g., by adding additional information in the Performed Processing Parameters Sequence of the UPS.
  - g. **ACTION**: David to draft a DICOM CP to add support for Series level referencing in both Input Information Sequence and Output Information Sequence of the UPS.
- III. The group discussed a potential gap in the DICOM Unified Worklist Service about making sure that the performer of the UPS actually works on the latest version of the UPS when claiming it. The specification allows some attributes of a given UPS instance to be changed while still in SCHEDULED state w/o changing the UPS Instance UID. The allowed attributes are limited to the following areas of changes:
  - a. UPS State: Procedure Step State, Input Readiness State, Reason For Cancellation, Procedure Step Discontinuation Reason Code Sequence
  - b. UPS Progress Report: Progress Information Sequence

- c. UPS Assigned: Scheduled Station Name Code Sequence, Human Performer Code Sequence, Human Performer's Organization

Those attributes actually don't change the scope/definition of the task to be performed, and thus can be considered as not relevant. So, even if the performer would not have the most recent version of the UPS when claiming it, it would still perform it as intended.

(Note that subscription does not help either as there might still be race conditions between the N-EVEN-REPORT notifying about the change of the UPS and the N-ACTION-RQ claiming the UPS.)

IV. Next Meeting

- a. Next DPDW Committee – Feb 28, 2023 at 10:00am ET

V. Meeting adjourned at 11:42am ET