

Minutes

Discrete Positioning and Delivery Workflow (DPDW)

Conference Call

May 26, 2020

10:30am – 11:30am EST

DPDW Subgroup Chair:

Thomas Schwere, Varian Medical Systems

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IHERO Task Force Co-Chairs

Bruce Curran, MEng, FAAPM, FACMP, FACR

Bridget Koontz, 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:

Harold Beunk (ICT)

Gergely Parditka (Brainlab)

Jon Treffert (RaySearch)

Istvan Matyas (Siemens Healthineers)

Thomas Schwere (Varian)

Bob Pekarek (Accuray)

Rickard Holmberg (RaySearch)

Bruce Rakes (Mevion)

Simon Andersson (RaySearch)

Sanjay Bari (Elekta)

Jill Moton (AAPM)

1 Call to Order

The meeting was started at 10:30am EST.

2 Reconciliation of Offline Delivery Artifacts

- Thomas walked through the minutes of the last call
- Discussion about where/how to specify the recovery/reconciliation procedures:
 - New profile vs. new version of TDW vs. new actors vs. optional transactions/profile options
 - Actors are supposed to support all (mandatory) transactions defined for that particular actor.
 - TMS may be the wrong term for that actor, TMS is rather a system that plays the role of actor(s) from profile(s).
 - Actors may even be called the same in different profiles even though they actually provide different functionality. Calling them differently in different profiles seems to be more appropriate though, to prevent from confusion.
 - To be hammered out in the Technical Committee
- TDW-II semantics is being changed because { CANCELED, 100% }, together with “Deferred Recording” now also means complete delivery (what epsilon should be applied for the progress value?). Existing table from TDW-II (rev 18):

Table 3.65.2-2: Status of (therapeutic) Tx Delivery

Procedure Step State (0074,1000)	Procedure Step Progress	Output Information Sequence (see also 7.4.2.4.2)	Status of (therapeutic) Tx Delivery
CANCELED	0%	May contain Tx Record(s) with delivered meterset equal 0	No Tx delivered
CANCELED	0% < progress < 100%	Shall contain Tx Record(s) with delivered meterset > 0	Tx partially delivered
COMPLETED	100% (Note 1)	Shall contain Tx Record(s) with delivered meterset > 0	Tx fully delivered as requested

Note 1: Procedure Step State of COMPLETED is a strong enough statement that the intended task of the UPS was performed as expected (independent on the actual Procedure Step Progress). Nevertheless, it's good practice to set the Procedure Step Progress to 100% as part of the Treatment Delivery Final Update RO-64 transaction.

- To be discussed in the Technical Committee
- Order of object storage during the recovery procedure (records before KOS or vice-versa).
 - References to records are added in the KOS. (Same as in the Output Information Sequence of the UPS.)
 - Question came up if the references in the KOS include the Retrieve AE Title where the objects can be retrieved from.
Key Object Document Module:

Attribute Name	Tag	Type	Attribute Description
Current Requested Procedure Evidence Sequence	(0040,A375)	1	List of all Composite SOP Instances referenced in Content Sequence (0040,A730), including all presentation states, real world value maps and other accompanying Composite Instances that are referenced from the Content Items. One or more Items shall be included in this Sequence. Note In the context of the Key Object Selection, the current evidence is considered to be only the set of instances referenced within the Key Object Selection.
>Include Table C.17-3 "Hierarchical SOP Instance Reference Macro Attributes"			

Table C.17-3. Hierarchical SOP Instance Reference Macro Attributes

Attribute Name	Tag	Type	Attribute Description
Study Instance UID	(0020,000D)	1	Unique identifier for the Study
Referenced Series Sequence	(0008,1115)	1	Sequence of Items where each Item includes the Attributes of a Series containing referenced Composite Object(s). One or more Items shall be included in this Sequence
>Include Table C.17-3a "Hierarchical Series Reference Macro Attributes"			

Table C.17-3a specifies the Attributes that reference a Series of SOP Instances.

Table C.17-3a. Hierarchical Series Reference Macro Attributes

Attribute Name	Tag	Type	Attribute Description
Series Instance UID	(0020,000E)	1	Unique identifier of a Series that is part of this Study and contains the referenced Composite Object(s).
Retrieve AE Title	(0008,0054)	3	Title of the DICOM Application Entity where the Composite Object(s) may be retrieved on the network.

- The purpose of the KOS is only to let the TMS know what the records were. Where they can be retrieved from is not the responsibility of the TDD/KOS.
- The Storage of the KOS is the trigger for the TMS to perform the reconciliation. (In case OST and TMS are fully independent, there needs to be some additional means to convey that trigger from OST to TMS. This is not in scope of the profile though. One possibility would be that the TMS periodically checks the OST for newly stored KOS. TMS knows if a session was closed w/o having the records available and thus a KOS is expected for the reconciliation.)
- Nevertheless, the store order shall be 1) records and 2) KOS (just to make sure that the KOS doesn't include objects that couldn't be stored).
- OST should not have any logic. It simply persists the objects received w/o any additional processing.
- **Decisions**
 - Instead of relying on a N-EVENT-REPORT (SCP restarted) for detecting a recovered/reachable TMS, TDD shall periodically issue C-ECHO RQ to the TMS.
 - The KOS shall be stored from the TDD to the OST.
 - The object store order during the recovery procedure shall be 1) treatment record(s) and 2) KOS.

3 General Topics

- Slack: How to get notifications if not logged-in? (Jill is following up)

4 New DPDW Use Cases from Imaging Vendor Workshop

Deferred to next call.

5 Adjournment

The meeting was adjourned at 11:55am 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).

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](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:

2020.iherodpdw@aapm.org