IHE-RO

DPDW: Granularity of UPS/Instruction Sets

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Atomic Unit of Work

- A task that does not require cross-actor interaction (when performed as intended) shall be considered an «Atomic Unit of Work».

- An «Atomic Unit of Work» shall be represented with a set of UPS/Instructions.

- Upon completion or non-intermittent interruption of the task, the set of UPS building up that particular task shall be set to a final state (CANCELED or COMPLETED).

- The resumption of an interrupted task shall happen on a fresh new set of UPS/Instructions. This most likely eliminates the need for the Pause/Resume UPS transactions (to be verified when working out the specific DPDW scenarios).

Sample Treatment Session

- RT Plan, Three Treatment Positions [1*]:

  - Tx Position 1: Iso1, PSA0 (Radiations 1..2)
  - Tx Position 2: Iso1, PSA1 (Radiation 3)
  - Tx Position 3: Iso2, PSA2 (Radiations 4..6)

  [1*] A Treatment Position is uniquely defined by its Isocenter AND Patient Support Angle

- Independent patient positioning per isocenter (non-rigid relation between the isocenters)

- This leads to the following "Atomic Unit of Work" or UPS/Instruction Sets:

Atomic Unit of Work (Task #)	Set of UPS/Instructions	Performer
1	Patient Positioning for Tx Position 1 (incl. Acquisition, Registration and Correction)	PPS (PPAS, PPRS, PPD)
2	Treat UPS/BDI for Tx Position 1 (including Radiations 1..2)	TDD
3	Patient Positioning for Tx Position 2 (only new PSA, no acquisition/registration)	PPS (PPD)
4	Treat UPS/BDI Tx Position 2 (including Radiation 3)	TDD
5	Patient Positioning for Tx Position 3 (incl. Acquisition, Registration and Correction)	PPS (PPAS, PPRS, PPD)
6	Treat UPS/BDI Tx Position 3 (including Radiations 4..6)	TDD

Sample Treatment Session