

DICOM Change Proposal

STATUS	Assigned
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Change Number	CP-2616
Log Summary:	Missing Attributes in UPS Attribute Service Requirements
Name of Standard	PS3.4
Rationale for Change:	<p>UPS Attribute Service Requirements in PS3.4 differ from UPS Scheduled/Performed Procedure Information Modules in PS3.3.</p> <p>Sequences that specify modifiers for a Scheduled / Performed Processing Parameter Content Item are defined in Table C.30.2-1. and Table C.30.3-1. in PS3.3 but are missing in Table CC.2.5-3. in PS3.4. These sequences should be added also in Table CC.2.5-3.</p> <p>This CP also fixes an indentation flaw in PS3.4, Table CC.2.5-3. Referenced Instances and Access Macro table is referenced with a leading single „>” character but should be referenced with leading double „>>” characters as it is the case in the last row of Table C.30.3-1. in PS3.3.</p>
Change Wording:	

For reference, relevant quotations from PS3.3 Sections C.30.2 and C.30.3:

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C.30.2 Unified Procedure Step Scheduled Procedure Information Module

Table C.30.2-1 specifies the Attributes of the Unified Procedure Step Scheduled Procedure Information Module, which describe the Unified Procedure Step (UPS) to be performed. The UPS may or may not be scheduled for a specific time or device, or may simply represent a piece of work that is intended to be performed.

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Table C.30.2-1. Unified Procedure Step Scheduled Procedure Information Module Attributes

Attribute Name	Tag	Attribute Description
Scheduled Procedure Step Priority	(0074,1200)	<p>Priority of the scheduled Procedure Step</p> <p>Enumerated Values:</p> <p>HIGH used to indicate an urgent or emergent work item, equivalent to a STAT request.</p> <p>MEDIUM used to indicate a work item that has a priority less than HIGH and higher than LOW. It can be used to further stratify work items.</p> <p>LOW used to indicate a routine or non-urgent work item.</p>

Attribute Name	Tag	Attribute Description
...		
Scheduled Workitem Code Sequence	(0040,4018)	Coded description of the Procedure Step. Only a single Item shall be included in this Sequence.
>Include Table 8.8-1 "Code Sequence Macro Attributes"		BCID 9231 "Workitem Definition". Note <i>This CID has generic workitems. An implementation may choose to define more specific, detailed workitems.</i>
Scheduled Processing Parameters Sequence	(0074,1210)	Processing parameters to be used by the performing system when carrying out the Procedure Step. Zero or more Items shall be included in this Sequence.
>Include Table 10-2 "Content Item Macro Attributes"		
>Content Item Modifier Sequence	(0040,0441)	Sequence that specifies modifiers for a Scheduled Processing Parameter Content Item. One or more Items are permitted in this Sequence.
>>Include Table 10-2 "Content Item Macro Attributes"		
...		

C.30.3 Unified Procedure Step Performed Procedure Information Module

15 Table C.30.3-1 specifies the Attributes of the Unified Procedure Step Performed Procedure Information Module, which describe the performance and results of a Unified Procedure Step (UPS).

Table C.30.3-1. Unified Procedure Step Performed Procedure Information Module Attributes

Attribute Name	Tag	Attribute Description
Unified Procedure Step Performed Procedure Sequence	(0074,1216)	Details of the Procedure Step as performed. Zero or one Item shall be included in this Sequence.
...		
>Performed Processing Parameters Sequence	(0074,1212)	Parameters used to perform the procedure. Zero or more Items shall be present in this Sequence.
>>Include Table 10-2 "Content Item Macro Attributes"		No Baseline CIDs are defined for Concept Name Code Sequence (0040,A043) or Concept Code Sequence (0040,A168).
>>Content Item Modifier Sequence	(0040,0441)	Sequence that specifies modifiers for a Performed Processing Parameter Content Item. One or more Items are permitted in this Sequence.

Attribute Name	Tag	Attribute Description
>>>Include Table 10-2 "Content Item Macro Attributes"		No Baseline CIDs are defined for Concept Name Code Sequence (0040,A043) or Concept Code Sequence (0040,A168).
>Performed Procedure Step End DateTime	(0040,4051)	Date and Time at which the Procedure Step ended.
>Output Information Sequence	(0040,4033)	References to information created as part of the Procedure Step. Referencing unencapsulated HL7 documents is described further in Section C.12.1.1.6. Zero or more Items shall be included in this Sequence.
>>Include Table 10-3b "Referenced Instances and Access Macro Attributes"		

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Modify PS3.4 Section CC.2.5.1.3, Table CC.2.5-3. UPS SOP Class N-CREATE/N-SET/N-GET/C-FIND Attributes, as indicated (changes to existing text are bold and underlined for additions and bold and struckthrough for removals):

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Table CC.2.5-2b. UPS Content Item Macro

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Final State	Usage N-GET (SCU/SCP)	Matching Key Type	Return Key Type	Remark/Matching Type
Value Type	(0040,A040)	1/1	1/1		-/1	*	1	The type of the value encoded in this name-value Item. Enumerated Values: DATETIME DATE TIME PNAME UIDREF TEXT CODE NUMERIC
Concept Name Code Sequence	(0040,A043)	1/1	1/1		-/1	*	1	Coded concept name of this name-value Item.
>Include Table CC.2.5-2a "UPS Code Sequence Macro"								No Baseline CID is defined.
DateTime	(0040,A120)	1C/1C	1/1		-/1	*	1C	Datetime value for this name-value Item.

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Final State	Usage N-GET (SCU/SCP)	Matching Key Type	Return Key Type	Remark/Matching Type
								Required if Value Type (0040,A040) is DATETIME.
Date	(0040,A121)	1C/1C	1/1		-/1	*	1C	Date value for this name-value Item. Required if Value Type (0040,A040) is DATE.
Time	(0040,A122)	1C/1C	1/1		-/1	*	1C	Time value for this name-value Item. Required if Value Type (0040,A040) is TIME.
Person Name	(0040,A123)	1C/1C	1/1		-/1	*	1C	Person name value for this name-value Item. Required if Value Type (0040,A040) is PNAME.
UID	(0040,A124)	1C/1C	1/1		-/1	*	1C	UID value for this name-value Item. Required if Value Type (0040,A040) is UIDREF.
Text Value	(0040,A160)	1C/1C	1/1		-/1	*	1C	Text value for this name-value Item. Required if Value Type (0040,A040) is TEXT.
Concept Code Sequence	(0040,A168)	1C/1C	1/1		-/1	*	1C	Coded concept value of this name-value Item. Required if Value Type (0040,A040) is CODE.
<i>>Include Table CC.2.5-2a "UPS Code Sequence Macro"</i>								<i>No Baseline CID is defined.</i>
Numeric Value	(0040,A30A)	1C/1C	1/1		-/1	*	1C	Numeric value for this name-value Item. Required if Value Type (0040,A040) is NUMERIC.

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Final State	Usage N-GET (SCU/SCP)	Matching Key Type	Return Key Type	Remark/Matching Type
Measurement Units Code Sequence	(0040,08EA)	1C/1C	1/1		-/1	*	1C	Units of measurement for a numeric value in this name-value Item. Required if Value Type (0040,A040) is NUMERIC.
>Include Table CC.2.5-2a "UPS Code Sequence Macro"								Baseline CID 82 "Measurement Unit"

CC.2.5.1.3 UPS Attribute Service Requirements

30 This table combines the Attribute requirements for multiple DIMSE Services (N-CREATE, N-SET, N-GET, C-FIND) to facilitate consistency between the requirements.

See Section 5.4.2 for the meaning of the requirement codes used in the N-CREATE, N-SET, N-GET and Return Key columns in the following table.

See Section C.1.2 for the meaning of the requirement codes used in the Matching Key column in the following table.

35 See Table CC.2.5-1 for the meaning of the requirement codes used in the Final State column of the following table.

Table CC.2.5-3. UPS SOP Class N-CREATE/N-SET/N-GET/C-FIND Attributes

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Final State	Usage N-GET (SCU/SCP)	Matching Key Type	Return Key Type	Remark/Matching Type
Transaction UID	(0008,1195)	2/2 Shall be empty	(see CC.2.6.3)	O	Not allowed	-	-	Cannot be queried.
SOP Common Module								
Specific Character Set	(0008,0005)	1C/1C	1C/1C	RC	3/1	-	1C	Required if extended or replacement character set is used
SOP Class UID	(0008,0016)	See CC.2.5.1.3.1	Not allowed	R	Not allowed	O	1	Uniquely identifies the SOP Class of the Unified Procedure Step. See Section CC.3.1 for further explanation.
SOP Instance UID	(0008,0018)	Not allowed. SOP Instance is conveyed in the Affected SOP Instance UID (0000,1000)	Not allowed. SOP Instance is conveyed in the Requested SOP Instance	R	Not allowed. SOP Instance is conveyed in the Requested SOP Instance	U	1	Uniquely identifies the SOP Instance of the UPS. SOP Instance UID shall be retrieved with Single Value Matching.

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Final State	Usage N-GET (SCU/SCP)	Matching Key Type	Return Key Type	Remark/Matching Type
			UID (0000,1001)		UID (0000,1001)			
<i>All other Attributes of the SOP Common Module</i>		3/3	3/3	O	3/3	-	-	
Unified Procedure Step Scheduled Procedure Information Module								
Scheduled Procedure Step Priority	(0074,1200)	1/1	3/1	R	3/1	R	1	Scheduled Procedure Step Priority shall be retrieved with Single Value Matching.
...								
Scheduled Processing Parameters Sequence	(0074,1210)	2/2	3/2	O	3/2	-	2	
<i>>Include Table CC.2.5-2b "UPS Content Item Macro"</i>								
>Content Item Modifier Sequence	(0040,0441)	3/3	3/3	O	3/3	O	3	The Attributes of the Content Item Modifier Sequence shall only be retrieved with Sequence Matching.
>>Include Table CC.2.5-2b "UPS Content Item Macro"								
...								
<i>All other Attributes of the Unified Procedure Step Scheduled Procedure Information Module</i>		3/3	3/3	O	3/3	-	-	
Unified Procedure Step Relationship Module								
Patient's Name	(0010,0010)	2/2	Not allowed	O	3/2	R	2	
...								
Unified Procedure Step Progress Information Module								
Procedure Step State	(0074,1000)	1/1 Shall be created with a value of "SCHEDULED"	-/-. Use N-ACTION	R	3/1	R	1	Procedure Step State shall be retrieved with Single Value Matching

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Final State	Usage N-GET (SCU/SCP)	Matching Key Type	Return Key Type	Remark/Matching Type
...								
Unified Procedure Step Performed Procedure Information Module								
Unified Procedure Step Performed Procedure Sequence	(0074,1216)	2/2 Shall be created empty	3/2	P	3/2	-	-	See CC.2.5.1.3.2.
...								
>Performed Processing Parameters Sequence	(0074,1212)	-/-	3/1	O	-/1	-	-	
>>Include Table CC.2.5-2b "UPS Content Item Macro"								
>>Content Item Modifier Sequence	(0040,0441)	3/3	3/3	O	3/3	O	3	The Attributes of the Content Item Modifier Sequence shall only be retrieved with Sequence Matching.
>>>Include Table CC.2.5-2b "UPS Content Item Macro"								
>Performed Procedure Step End DateTime	(0040,4051)	-/-	3/1	P	-/1	O	1C	Required if set.
>Output Information Sequence	(0040,4033)	-/-	2/2	P	-/2	-	-	If there are no relevant output objects, then this sequence may have no items.
>>>Include Table CC.2.5-2c "Referenced Instances and Access Macro"								