

DICOM Correction Proposal Form

Tracking Information - Administration Use Only	
Correction Proposal Number	CP-275
STATUS	
Date of Last Update	11/2/2001
Person Assigned	Harry Solomon
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Correction Number CP-275	
Log Summary: Clarify Transitivity of Enumerated or Defined Templates	
Type of Modification Clarification	Name of Standard PS 3.16
<p>Rationale for Correction</p> <p>The transitive properties of the Enumerated or Defined classification on recursively included Templates is not clearly defined.</p> <p>Indeed, the Baseline, Defined, and Enumerated classifications of included Templates conflates two independent concepts. First is a property of the invoking Template specifying whether in a particular context a specific Template must be used, and second is a property of the target Template specifying whether it is extensible. It is improper for an invoking Template to determine whether a target Template is extensible; an invoking Template may choose to include either an extensible or a non-extensible target Template, but extensibility is properly an attribute of the target, not the invocation.</p> <p>Disambiguating these two concepts will clarify the properties desired during recursiveTemplate inclusion. It also simplifies the creation of applications to check the validity of SR SOP Instances created using a template.</p> <p>A similar issue arises with Context Groups.</p> <p>This Change Proposal adds definitions and rules for extensibility of Templates and Context Groups.</p>	
<p>Sections of documents affected</p> <p>PS 3.16 Sections 3, 6, 7, and Annexes A and B</p>	
Correction Wording:	

Modify the definitions of PS 3.16 Section 3.1

- 3.1.1 Baseline Context Group Identifier (BCID) : Context Group Identifier that specifies the suggested Value Set for a Code Sequence Attribute.
- 3.1.2 Defined Context Group Identifier (DCID) : Context Group Identifier that specifies the Value Set for a Code Sequence Attribute that shall be used, ~~but may be extended.~~
- 3.1.3 Enumerated Context Group: Context Group that ~~specifies the Value Set for a Code Sequence Attribute that shall be used and~~ shall not be extended.

3.1.3a Extensible Context Group: Context Group that may be extended in either its definition (resulting in a new Context Group Version), or in a particular instantiation in a SOP Instance.

...
3.1.6 Context Group Version: Version of a Context Group.

...
3.1.14 Baseline Template Identifier (BTID): Identifier of a template suggested in an IOD which may be used in the creation of a SOP Instance, or replaced by another template ~~or extended~~.

3.1.15 Defined Template Identifier (DTID): Identifier of a template defined in an IOD that ~~specifies an extensible set of Content Items and corresponding Value Sets. A shall be used in the creation of a~~ SOP Instance ~~may optionally include additional Content Items beyond those specified in the template.~~

3.1.16 Enumerated Template: A template ~~defined in an IOD~~ that specifies the exact set of Content Items and corresponding Value Sets that shall be used and which shall not be extended. ~~A SOP Instance shall be created according to the exact Template specification and shall not include additional Content Items.~~

3.1.16a Extensible Template: A template that may be extended.

Modify the text of PS 3.16 Section 6.1
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...
References to Context Groups take the following form:

BCID or; DCID ~~or ECID~~ (CID) CNAME

e.g. Defined Context Group 5000 is represented as follows: DCID (5000)
Language.

References to Templates take the following form:

BTID or; DTID ~~or ETID~~ (TID) TNAME

e.g. ~~Enumerated~~ Baseline Template 1000 is represented as follows: ~~E~~BTID
(1000) Quotation.

...

6.1.5 Concept Name

Any constraints on Concept Name are specified in this field as defined or enumerated coded entries, or as baseline or; defined ~~or enumerated~~ context groups. Alternatively, when the VT field is "INCLUDE", the Concept Name field specifies the template to be included.

...

6.1.9 Value Set Constraint

Value Set Constraints, if any, are specified in this field as defined or enumerated coded entries, or as baseline or; defined ~~or enumerated~~ context groups.

...

6.1.9.1 NUM Units Constraint

Constraints on units of measurement, if any, are specified in the Value Set Constraint field if and only if the Value Type is NUM. The constraints are specified either as defined or enumerated coded entries, or as baseline or; defined ~~or enumerated~~ context groups.

Add to PS 3.16 new Sections 6.2.5 and 6.2.6

6.2.5 Extensible Templates

An Extensible Template may be extended in subsequent editions of the Standard without a change in Template Identifier, but with the specification of a new Template Version.

An Extensible Template may be extended by the specification of additional Content Items in its definition. If the Template consists solely of a CONTAINER Content Item and subsidiary (child) Content Items, any added Content Items shall be subsidiary to the top level CONTAINER. Added Content Items shall not be Mandatory.

An Extensible Template may be extended by replacing a Value Set with a strict superset of the prior definition. Thus a Defined Term may be replaced by a Context Group that includes the former Defined Term, and an Extensible Context Group may be replaced by another Context Group (with the same or a different Identifier) that includes all the terms of the former Context Group.

An Extensible Template may be extended by replacing an included Defined Template with a strict superset of the formerly specified Template.

An Extensible Template may be extended by replacing an included Baseline Template with another Baseline Template.

An Extensible Template shall not be extended by replacing an Enumerated Value, a Defined Context Group directly invoking an Enumerated Context Group, or a Defined Template directly invoking an Enumerated Template.

A SOP Instance created from an Extensible Template may include content consistent with any permissible extension of the template.

6.2.6 Enumerated Templates

An Enumerated Template shall not specify an included Baseline Template.

An Enumerated Template may include a Defined Template that is Extensible. In invoking such a Template, the structure of SOP Instances created from the Enumerated Template may vary according to the varying content structure allowed by the extension of the Defined Template.

An Enumerated Template may specify a Baseline Context Group, or a Defined Context Group that is Extensible, for the Concept Name of a row.

Note: Specification of such extensible content in an Enumerated Template may be desirable if the Template defines, e.g., a fixed top level structure into which a variety of lower level structures may be "plugged".

Modify the text of PS 3.16 Section 7.2.3

7.2.3 Extension of Context Groups

As the standard evolves, ~~those Extensible Context Groups that are used in IODs or Templates only as baseline context groups may be modified to use additional or different terms. Those Context Groups that are used anywhere as defined context groups~~ may be modified to use additional, but not different terms. Such extension may be made without a change in Context Group Identifier, but with the specification of a new Context Group Version.

Those Enumerated Context Groups ~~that are used anywhere as enumerated context groups may~~ shall not be modified.

~~Whether a particular Context Group is used as a baseline, defined or enumerated Context Group is determined at the point where the Context Group is invoked, and the most restrictive use is indicated where the Context Group is defined.~~

Modify the text of PS 3.16 Annex A:

Replace all occurrences of "ETID" with "DTID", and specify the invoked Templates as "Type: Enumerated".

Set all other Templates to "Type: Extensible Version: 2001".

Replace all occurrences of "ECID" with "DCID".

Change all Context Groups with "Most Restricted Use: Enumerated" to "Type: Enumerated"

Change all Context Groups with "Most Restricted Use: Baseline" or "Most Restricted Use: Defined" to "Type: Extensible Version: 2001"