

ISO/IEC JTC 1/SC 32 N 0656

Date: 2001-07-13

REPLACES: --

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**SC32 N0656 -- Record of Resolution of Comments on PDTR 20943 (SC32 N0489)
at Editing Meeting on Oct. 5, 2000 in Helsinki, Finland**

SEQ #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
JTC1/SC32/WG2 PDTR 20943 (SC32 N0489)						
	CAN-CTR-001		3-Major Editorial	<i>CTR-00-Title</i>	<p>The title of PDTR 20943 refers to "metadata registry (MDR)". Canada has made comments on the term "metadata registry" and the abbreviations "MDR" and "MDR3" in its response to CD 11179-3 (SC32 N0490). If changes are made to the title of CD 11179-3, corresponding changes will be required to the title of PDTR 20943.</p> <p align="center">Proposed Solution</p> <p>To be determined at the editing meetings for CD 11179-3 and PDTR 20943.</p>	Editor will harmonize and make all titles consistent with the Revised Part 3.
	CAN-CTR-002		1-Major Technical	<i>CTR-04</i>	<p>Clause 4 describes what it calls "data element abstraction". However, CD 11179 uses the term abstraction only in the context of Concept and Object Class.</p> <p>We suggest that it is more usual to do abstraction at the level of entities or object classes, than a data element. Even if done at the data element level, it is actually the data element concept that would be abstracted or specialized. The data element only provides representation to the concept. Note that the metamodel in CD 11179-3 supports relationships among object classes and among data element concepts (and these relationships could presumably be abstractions, though the CD does not say so), but no such relationships are directly supported for data elements per se.</p> <p align="center">Proposed Solution</p> <p>None provided.</p>	Withdrawn
	CAN-CTR-003	CAN-CTR-002 CAN-CTR-004 CAN-CTR-014	1-Major Technical	<i>CTR-04-02</i>	<p>We are not comfortable with the example of specialization of data elements. (In fact, CAN-CTR-002 expresses discomfort with the very concept.) We suggest that the USPS state code is better considered as a domain, rather than as a data element. Mailing address state code is a <u>data element concept</u>, with object class "mailing address" and property "state code". A data element can be formed by associating the data element concept with the value domain State USPS Code</p> <p>The specialization of Mailing Address state code, into Facility Mailing Address state code and Customer Mailing Address state code, is really a specialization of the object class "Mailing Address". The data element</p>	Canada to provide text for new Sub-Clause (either 4.2 plus or 4.5).

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					<p>concepts are related via the object class relationship.</p> <p>Similarly, Facility Geographic State Code is a data element concept, with object class "Facility Geographic Location" and property State Code. Customer Geographic State Code is a data element concept, with object class "Customer Geographic Location" and property State Code. "Facility Geographic Location" and "Customer Geographic Location" can be viewed as specializations of a more generic object class, "Geographic Location".</p> <p>Also, the fact that facilities do not exist in all states does not necessarily imply that the <u>domain</u> of values for Facility Geographic State Code should be restricted. Just not all the values are used at the present time. (However, if there were some constraint preventing the establishment of new facilities in certain states, then it would be valid to restrict the domain.)</p> <p style="text-align: center;">Proposed Solution</p> <p>Sub-clause 4.2 should be reworked to show State USPS Code as a domain shared by the two hierarchies Geographic State Code and Mailing Address State Code.</p>	
	CAN-CTR-004	CAN-CTR-003	2-Minor Technical	CTR-04-02	<p>Paragraph 2, second sentence, states: "The data element State USPS Code forms part of an address group (figure 1)." Figure 1 does not use the term "address group" (though figure 2 does). Also, CAN-CTR-003 proposes that State USPS Code be considered a domain, rather than a data element.</p> <p style="text-align: center;">Proposed Solution</p> <p>None provided.</p>	Move reference to Figure 1 to after the words "State USPS Codes".
	CAN-CTR-005		1-Major Technical	CTR-05	<p>This clause describes aspects of registration that are not unique to the bottom up approach. Such aspects should be separated out into a new clause preceding clause 5. The bottom up approach should describe starting with data elements, and then deriving data element concepts, object classes and properties. The top down approach should start with object classes and properties, and derive the data element concepts and data elements.</p> <p style="text-align: center;">Proposed Solution</p> <p>None provided.</p>	<p>Editor will review Part 6.</p> <p>Editor will clarify:</p> <ol style="list-style-type: none"> 1.) referenci ng 2.) include again
	CAN-CTR-006		1-Major Technical	CTR-05	<p>There is no discussion of how to deal with poorly formed data elements, which confuse more than one concept. Handling such data elements is a key part of the bottom up approach. (Note: We consider the country codes in ISO 3166 to be poorly formed because they mix countries and territories in a single</p>	Add paragraph explaining "Problems" with data elements not

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					domain.) Proposed Solution None provided.	addressed in this document.
	CAN-CTR-007	CAN-CTR-015 CAN-CTR-019	3-Major Editorial	CTR-05-01-03	In this sub-clause, Permissible Values are grouped with the Definition of a data element, but in the metamodel in CD 11179-3, permissible values are not directly related to the definition, but are part of a value domain. Also, sub-clause 5.1.3.2 discusses value domains as well as permissible values. Proposed Solution Delete the heading 5.1.3. Promote sub-clause 5.1.3.1 to 5.1.3. Promote sub-clause 5.1.3.2 to 5.1.4, and rename to "Permissible values and Value Domain". Renumber sub-clauses 5.1.4 through 5.1.8.	Accept
	CAN-CTR-009		2-Minor Technical	CTR-05-01-03-02	Paragraph 2, last sentence refers to "end dates". The term used in CD 11179-3 is "until date". Proposed Solution Use the term from CD 11179-3.	Accept
	CAN-CTR-008		3-Major Editorial	CTR-05-01-03-02	Paragraph 4, sentences 1 and 2, discusses "representation class", which in CD 11179-3 is an attribute of "data element", rather than "value domain" or "permissible values". Proposed Solution Create a new sub-clause following the subclause on "permissible values and values domains", entitled "Representation Class". Move the first two sentences there. Also add text explaining what a representation class is.	Judy will do text for 5.1.4 (may come up in model review)
	CAN-CTR-010		2-Minor Technical	CTR-05-01-04	In paragraph 3, the second sentence states that "one or more names" <u>can</u> be assigned to a data element, and that the reason for doing so as is stated in the first sentence. In fact, according to the model in CD 11179-3, "one or more names" <u>must</u> be assigned, not only to data elements, but also to any administered component. Current Text is "Therefore, one or more names can be assigned to a data element; each associated with the context in which the name is used. ... The description of the naming convention is stored in the metadata registry." Proposed Solution Delete the first sentence, and the first word of the second sentence of paragraph 3. In the second sentence, change "can be" to "must be". [Note: if this proposal is rejected, and sentence 1 is retained, then change "non-	Para 3, Sen 1 should read "At least one name must be assigned to a data element , associated with the context in which the name is used. . . . The description of the naming convention should bestored in the

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					intelligible" to "linguistically neutral". Note that identifiers become intelligible through repetition, as demonstrated by our references to standards by their identifiers, rather than their names. Note also, the opposite of intelligible is unintelligible, not non-intelligible.]	metadata registry as a reference document."
	CAN-CTR-011		4-Minor Editorial	CTR-05-01-04	Paragraph 3, sentence 6 states: "The description of the naming convention is stored in the metadata registry." Firstly, CD 11179-3 does not require this. Secondly there is no indication where it should be stored. Proposed Solution Replace the sentence by: "The description of the naming convention should be stored in the metadata registry as a reference document."	Accept
	CAN-CTR-012	CAN-P03-109	2-Minor Technical	CTR-05-01-06	Paragraph 4, first sentence, states: "Data element concepts may be identified with object class, property and qualifiers." In our comment (CAN-P03-109) on CD 11179-3 [2] we note that CD 11179-3 is ambiguous as to whether object class and property are mandatory or optional, with the text stating they are mandatory, but the figures showing them as optional. We believe they should be mandatory. Note also that a data element concept, as an administered component, has its own identifier, so the use of the phrase "identified with" may not be the best. Proposed Solution Ensure that PDTR 20943 reflects the resolution of CAN-P03-109 on CD 11179-3. If object class and property are confirmed to be mandatory, then reword the first sentence as: "Data element concepts shall be associated with an object class, a property and optional qualifiers."	** Change dependent on Part 3 change. See resolution of CAN 109
	CAN-CTR-013	CAN-P03-193	2-Minor Technical	CTR-05-01-06	Paragraph 4, second sentence, describes a conceptual domain as: "the meanings of the set of possible valid values for a data element concept, expressed without representation." In our comment CAN-P03-193 on CD 11179-3, Canada has pointed out that it is not possible to express anything without representation. Proposed Solution Incorporate the resolution of CAN-P03-193.	** Change dependent on Part 3 change See resolution of CAN 193
	CAN-CTR-014	CAN-CTR-003	1-Major Technical	CTR-05-02	We suggest that the ISO 3166 country identifier is best treated as a value domain, and it that could be used to represent a data element concept, such as "Mailing Address Country Code". However, the example then becomes very similar to the State USPS Code example in clause 4.2, and we suggest it would be better to use the same example in both places.	Rejected

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					Proposed Solution Rework the example using Mailing Address State Code.	
	CAN-CTR-015	CAN-CTR-007 CAN-CTR-016 CAN-CTR-019	3-Major Editorial	CTR-05-02-03	<p>Permissible values are grouped with Definition of data element, but in the metamodel in CD 11179-3, permissible values are not directly related to the definition, but are part of a value domain. Also, sub-clause 5.2.3.2 discusses value domains as well as permissible values.</p> <p style="text-align: center;">Proposed Solution</p> <p>Delete the heading 5.2.3. Promote sub-clause 5.2.3.1 to 5.2.3. Promote sub-clause 5.2.3.2 to 5.2.4, and rename to "Permissible values and Value Domain". Renumber sub-clauses 5.2.4 through 5.2.10.</p>	Accept Delete sentence in Clause 5.2.3
	CAN-CTR-016	CAN-CTR-015 CAN-CTR-020 CAN-CTR-023 CAN-P03-033	1-Major Technical	CTR-05-02-10	<p>Revise the structure of the table of attributes to be more consistent with the structure of the metamodel in CD 11179-3. (See also our comment CAN-P03-033 on CD 11179-3.)</p> <p style="text-align: center;">Proposed Solution</p> <p>We suggest the major headings in the table should correspond to the major areas of the metamodel in CD 11179-3, as revised by our comment CAN-P03-033 on CD 11179-3.</p> <p>There are three topic areas:</p> <ul style="list-style-type: none"> • Data Element • Data Element Concept • Conceptual Domain and Value Domain <p>Each of these three topic areas includes attributes for:</p> <ol style="list-style-type: none"> 1) Administration and Identification Include DE Component Identifier, all the attributes except DE Example listed under "3 Other Metadata Attributes", and the Quality Control Attributes. 2) Naming and Definition Merge DE Name Context and DE Definition Context into a single DE Context. A data element must have both a name and a definition in any particular context. Include DE Name, DE Definition and associated Language codes. 3) Classification 	<p>Add reference to crosswalk in Annex C</p> <p>Table should match text and crosswalk to Part 3</p> <p>Separate DE and PV into two sections – Data Element Definition and Value Domain are both Main Headings.</p> <p>Property (Not applicable) to Identifier VM “Begin” “Until” =>”Repeat for each VM”</p>

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SEQ #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
						Global Change "End Date" = "Until Date" Apply changes to all Tables
	CAN-CTR-017	CAN-CTR-016 CAN-P03-033	1-Major Technical	CTR-05-02-10	The table in clause 5.2.10 separates out quality control attributes. If this is felt to be useful in the technical report, perhaps they should be separated out in the metamodel in CD 11179-3. Proposed Solution None provided.	Change Status Information to R & A
	CAN-CTR-018		2-Minor Technical	CTR-05-02-10	In the table, under the heading "4 Data Element Concept and Conceptual Domain", the attribute Property should have the value "Identifier". Proposed Solution Replace the text "(Not applicable)" by "Identifier".	Change All Tables as needed
	CAN-CTR-019	CAN-CTR-007 CAN-CTR-015 CAN-CTR-022	3-Major Editorial	CTR-05-03-03	Permissible values are grouped with Definition of data element, but in the metamodel in CD 11179-3, permissible values are not directly related to the definition, but are part of a value domain. Also, sub-clause 5.2.3.2 discusses value domains as well as permissible values. Proposed Solution Delete the heading 5.3.3. Promote sub-clause 5.3.3.1 to 5.3.3. Promote sub-clause 5.3.3.2 to 5.3.4, and rename to "Permissible values and Value Domain". Renummer sub-clauses 5.3.4 through 5.3.10.	Accept
	CAN-CTR-020	CAN-CTR-016 CAN-CTR-023 CAN-P03-033	1-Major Technical	CTR-05-03-10	Revise the structure of the table of attributes to be more consistent with the structure of the metamodel in CD 11179-3. (See also our comment CAN-P03-033 on CD 11179-3 and CAN-CTR-016.) Proposed Solution See CAN-CTR-016.	Same as CAN 016
	CAN-CTR-021	CAN-CTR-020	2-Minor Technical	CTR-05-03-10	In the table in clause 5.3.10, a name should be provided for the conceptual domain. Proposed Solution (E.g. Measures of Latitude)	Accept
	CAN-CTR-022	CAN-CTR-007 CAN-CTR-015	3-Major Editorial	CTR-05-04-03	Permissible values are grouped with Definition of data element, but in the metamodel in CD 11179-3, permissible values are not directly related to the	Accept

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		CAN-CTR-019			definition, but are part of a value domain. Also, sub-clause 5.4.3.2 discusses value domains as well as permissible values. Proposed Solution Delete the heading 5.4.3. Promote sub-clause 5.4.3.1 to 5.4.3. Promote sub-clause 5.4.3.2 to 5.4.4, and rename to "Permissible values and Value Domain". Re-number sub-clauses 5.4.4 through 5.4.10.	
	CAN-CTR-023	CAN-CTR-016 CAN-CTR-020 CAN-P03-033	1-Major Technical	CTR-05-04-10	Revise the structure of the table of attributes to be more consistent with the structure of the metamodel in CD 11179-3. (See also our comment CAN-P03-033 on CD 11179-3 and CAN-CTR-016.) Proposed Solution See CAN-CTR-016.	Same as CAN 016
	CAN-CTR-024	CAN-CTR-016 CAN-CTR-020 CAN-CTR-023 CAN-P03-033	1-Major Technical	CTR-06-03	Clause 6.3 suggests using a different representation of the information for top down registration. We suggest that just because information is gathered in a different order is no reason to change the way it is represented. Proposed Solution Use a consistent table structure for both clauses 5 and 6.	Editor will consider. Current order is OK
	CAN-CTR-025	CAN-CTR-016 CAN-CTR-020 CAN-CTR-023 CAN-CTR-024 CAN-P03-033	1-Major Technical	CTR-Annex A	Apply changes to Annex A corresponding to those made to clause 5. Proposed Solution See resolution of CAN-CTR-016 etc.	Accept

SEQ #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
JTC1/SC32/WG2 Content Technical Report (PDTR 20943)						
	US-CTR-001		3-Major Editorial		Use of "DE", "DEC", etc should be confined to tables such as in Clause 6.3 and not in the text Solution Remove the use of "DE", "DEC", etc and replace with "data element", data element concept, etc	Accept

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	US-CTR-002		4-Minor Editorial	<i>Introduction</i>	<p>Paragraph 3 first sentence Correct reference to part 3 and delete DE</p> <p>Solution</p> <p>Proposed sentence The ISO/IEC CD 11179, Part 3 (2000-06-30), models a data element and its associated data element concept Conceptualization and articulation of rules and relationships in the creation of data element concepts, data elements, and value domains are needed.</p>	Accept Also move “are needed” at end of suggested sentence to immediately after “and relationships” earlier in sentence
	US-CTR-003		4-Minor Editorial	<i>01.01, Background</i>	<p>Paragraph 1, sentence 2 Suggest rewording</p> <p>Solution</p> <p>Proposed sentence It supports the standardization and harmonization processes by recording and disseminating data specifications, which facilitates data sharing among organizations and users.</p>	Accept
	US-CTR-004		4-Minor Editorial	<i>01.01, Background</i>	<p>Paragraph 2 sentence 1 Suggest rewording noting this is not just for data systems</p> <p>Solution</p> <p>Proposed sentence This technical report is based on ISO/IEC CD 11179, Part 3 (2000-06-30) of the six-part ISO/IEC 11179 standard that describes the organization of a registry for managing the semantics of data.</p>	Accept
	US-CTR-005		4-Minor Editorial	<i>01.01, Background</i>	<p>Paragraph 2 last two sentences Suggest rewording</p> <p>Solution</p> <p>Proposed sentence The conceptual model is not intended to be a logical data model for a computer system, much less a physical model.</p>	Accept as revised. Add “or physical” after “logical” and delete last phrase
	US-CTR-006		4-Minor Editorial	<i>01.01, Background</i>	<p>Paragraph 3 last sentence Data element concept is not needed here</p> <p>Solution</p> <p>Proposed sentence The standard identifies the information elements that need to be available for determining the meaning of a data element to be shared between systems.</p>	Accept
	US-CTR-007		4-Minor	<i>01.02, Purpose</i>	Sentence 1	Accept as revised. Add

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			Editorial		<p style="text-align: center;">Solution</p> <p>Proposed sentence The purpose of this technical report is to describe a set of procedures for the registration of data elements and their attributes in a registry.</p>	“consistent” before “registration”
	US-CTR-008		4-Minor Editorial	<i>01.02, Purpose</i>	<p>A sentence is needed at the end to express that there could be other rules</p> <p style="text-align: center;">Solution</p> <p>Proposed sentence An organization may develop their own set of business rules for data elements and their attributes which are based upon these or other rules that it deems are necessary.</p>	Add instead “An organization may adapt and/or add to these procedures as necessary.”
	US-CTR-009		4-Minor Editorial	<i>01.032, Scope</i>	<p>Paragraph 1 Last sentence Delete sentence as this TR does not fully address classification schemes.</p> <p style="text-align: center;">Solution</p> <p>Proposed sentence Delete last sentence.</p>	Accept
	US-CTR-010		4-Minor Editorial	<i>01.032, Scope</i>	<p>Last paragraph, Last sentence The beginning is a Data Element Concept not a Conceptual Domain</p> <p style="text-align: center;">Solution</p> <p>Proposed sentence Top-down registration is shown in Clause 6 with an example of registration of data elements about biological organisms. Here registration begins with identification of a data element concept.</p>	Reject unless Clause 6.1 changes.
	US-CTR-011		4-Minor Editorial	<i>02, References</i>	<p>Part 3 reference should be to the new Part 3</p> <p style="text-align: center;">Solution</p> <p>Proposed reference ISO/IEC CD 11179-3 (2000-06-30), Information technology - Data management and interchange - Metadata registries (MDR) - Part 3: Registry metamodel (MDR3)</p>	Match Part 3 titles and numbers. Keep both until Part 3 becomes IS.
	US-CTR-015		4-Minor Editorial	<i>04, Data element abstraction</i>	<p>Paragraph 1 sentence 3 Smooth out. "Conceptual" is confusing with data element concept which was described as the conceptual</p> <p style="text-align: center;">Solution</p> <p>Proposal Layers may progress from the most general to the more specific.</p>	Accept with the substitution of “more” for “most”

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	US-CTR-016		4-Minor Editorial	04, Data element abstraction	Paragraph 2 sentence 2 It is also good as a search facilitator Solution Proposal to modify sentence This provides a means of comparison of the contents of different registries and of searching within a registry.	Accept
	US-CTR-019		4-Minor Editorial	04.01, Abstraction types	Paragraph 1 sentence 1 The first sentence is immaterial. It implies that abstraction/classification is not important elsewhere. Solution Proposal Delete the first sentence	For Sen 1 substitute "Abstraction is a well developed tool for analysis and conceptualization."
	US-CTR-023		4-Minor Editorial	04.01, Abstraction types	Last paragraph better wording. What are "classes by definition"? Solution Proposal The first type of differentiation is very useful for structuring registry members, as many registry content items are perceived to have broader and narrower items.	Substitute instead "Both types are commonly found in registries."
	US-CTR-026		4-Minor Editorial	05, Bottom-up approach to data element registration	Paragraph 1 is not just related to "bottom-up". There needs to be a new general introduction "Approaches to Data Element registration". Solution	See CAN 005
	US-CTR-027		4-Minor Editorial	05, Bottom-up approach to data element registration	Paragraph 2 sentence 3 Better wording and note "bottom-up" is not defined. Solution Proposal replacement Registry practitioners, working from existing systems , may find that working from data elements to data element concept approach to registering a data element is appropriate. This approach is referred to as "bottom-up" in this technical report.	Accept and add "s" to "concept" and delete "approach to registering a data element"
	US-CTR-028		4-Minor Editorial	05, Bottom-up approach to data element registration	Paragraph 2 sentence 5 Better wording Solution Proposal replacement [Starting a new paragraph] The examples provided in this clause of the technical report describe how to formulate attributes about a data element, based on a bottom-up procedure.	Accept but delete "of the technical report"
	US-CTR-029		4-Minor	05, Bottom-up	Paragraph 2 sentence 6 Break in thought start a new paragraph	Withdrawn

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			Editorial	approach to data element registration	<p style="text-align: center;">Solution</p> <p>Proposal start of paragraph with The examples provided in this clause of the report describe how to formulate attributes about a data element, based on a bottom-up procedure.</p>	See US 028
	US-CTR-030		3-Major Editorial	05.03, International standard with non-enumerated domain	<p>This entire clause makes the assumption that ISO 6709:1983 latitude should be treated as a data element. This assumption should explicitly stated with the statement that others may consider it a value domain.</p> <p>ISO 6709 states "This International Standard specifies a variable-length for the representation of latitude, longitude and altitude for use in information interchange"</p> <p style="text-align: center;">Solution</p> <p>Recommend that an example be added that a data element example from another international standard that utilizes ISO 6709 as a format (non-enumerated value domain) that constrains the data that may instantiate the data element. A candidate standard is ISO CD 19115.3, Geographic information - Metadata Clause B.2.6.4 "obliqueLineLatitude".</p>	Editor will propose an additional example.
	US-CTR-031		3-Major Editorial		<p>All examples Examples should not use identifiers that identify a specific country or organization, i.e. USA-EPA-OEI-OIC 209033:1 or similar. These should be some "generic" identifier such as "{RAI}" 209033:1 where "{RAI}" is explained in the text.</p> <p style="text-align: center;">Solution</p>	Accept
	US-CTR-032		3-Major Editorial	06	<p>This clause could use a better example. 11179-2 uses this example as a classification and not the data element concept or point for data elements. Also this section obfuscates the point if Biological Organism is a classification or a conceptual domain.</p> <p>A clear example is needed that does not need to get into classification.</p>	Reject as written but solicit proposals for clarification of clause.

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					Solution	
	US-CTR-033		3-Major Editorial	<i>0A, Table of data element attributes for examples</i>	Needs to be worked with the Clauses 5 and 6 proposed changes <div style="text-align: center;">Solution</div>	Accept
	US-CTR-034		3-Major Editorial		In table in clause 5.2.10, 5.4.10, and Annex A, it is interesting that section one of the table is "Data Element Definition and Permissible Values" rather than "Data Element Definition and Representational Specification". In this table Permissible Values is used to specify the "set of permissible values" which is the value domain in part 3. This table leads the reader to believe there is one begin and end date for the set rather than each permissible value. <div style="text-align: center;">Solution</div>	See CAN 007 and 015 Make table match comments from Canada. Indicate that Begin and Until Dates repeat for each Value
	US-CTR-035	1.1 Background (2 nd paragraph)	3-Major Editorial	<i>Introduction</i>	Mentions parts 3 and 6 of ISO/IEC 11179, but does not name or introduce the standard itself. ISO/IEC 11179 should be introduced by name and described. <div style="text-align: center;">Solution</div>	Accept See US 037 Specify in Background first sentence
	US-CTR-036		1-Minor Technical	<i>Introduction</i>	Incorrectly describes part 3 as "models a data element (DE) and its associated data element concept (DEC)." Part 3 introduces itself as "specifies the structure of a metadata registry and defines basic attributes for specifying administered data components." <div style="text-align: center;">Solution</div>	Resolved by US 002
	US-CTR-037	Introduction	4-Minor Editorial	<i>01.01 Background</i>	Second paragraph seems more appropriate to Introduction. <div style="text-align: center;">Solution</div>	Accept See US 035
	US-CTR-038		2-Minor Editorial	<i>01.03 Scope</i>	The sentence "This TR also <i>addresses</i> registration of classification schemes and their use in classifying data elements" implies more emphasis on classification than the	Resolved by US 009

SE Q #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
					<p>paper provides.</p> <p style="text-align: center;">Solution</p> <p>Restate that "The scope <i>refers</i> to classification schemes..." and add a reference to Part 2 of the standard for more detailed information.</p>	
	US-CTR-040		1-Major Technical	04. Data element abstraction	<p>The second paragraph states "relationships among the members of each layer and between layers are meaningful in defining the structure of the registry contents." This may be an overstatement. Relationships among and between layers show linking and relationships that might exist between Value Domains and Data Elements. This might be handled through recursive relationships or through derivation, probably in Clause 7.</p> <p style="text-align: center;">Solution</p>	Withdrawn
	US-CTR-041		4-Minor Editorial	04.01 Abstraction types	<p>The sentence "Most things in a registry will be classes by definitions" is not clear.</p> <p style="text-align: center;">Solution</p>	Resolved by US 023
	US-CTR-042		1-Major Technical	04.02 Example of specialization/generalization	<p>The third paragraph assumes that the value domains do not contain the same set of codes, but does not state that explicitly. The second and third sentences should be edited to: "As before, the address groups of these elements differ, and in addition the data value domains do not <i>necessarily</i> contain the same sets of valid values. The domain of Customer Mailing Address State Code <i>might remains</i> the same as Mailing Address State Code, but the domain of Facility Mailing Address State Code <i>is might now be</i> restricted to the subset of states in which facilities are located."</p> <p style="text-align: center;">Solution</p>	Accept

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SE Q #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
	US-CTR-043		4-Minor Editorial	<i>04.02 Example of specialization/generalization</i>	The fifth paragraph states that Clause 5.5 and Clause 5.6 describe linking data elements...to one registry data element. Clauses 5.2, 5.3, and 5.4 classify data elements by layer of abstraction type, and Clause 5.6 provides examples of linking data elements based on layers of abstraction. Clause 5.5 does not address layers of abstraction. Solution	Substitute Sen 2 of comment into Para 5 (check para references)
	US-CTR-044		3-Major Editorial	<i>04.02 Example of specialization/generalization</i> <i>4.3 Example of decomposition/aggregation</i>	Paragraph six of 4.2 and paragraph 3 of 4.3 describe "assigning an attribute called Layer of Abstraction Type." There is no attribute called Layer of Abstraction Type. The attribute used to record Layer of Abstraction in the Part 3 metamodel would be the Classification_Scheme_Item.csi_type_name. The values: specialization, generalization, aggregation, or decomposition, would be recorded where appropriate in the attribute Classification_Scheme_Item.csi_value. Solution	Accept Modify text and tables to match.
	US-CTR-045		4-Minor Editorial	<i>04.02 Example of specialization/generalization</i>	The text in paragraph six assigns the classification values Generalization and Specialization. The text in Subclause 5.4.7 and the tables in Subclause 5.4.10 and Annex A, however, use the term Specification for the classification value, instead of Specialization. Solution	Accept Specialization is correct. Correct Clause 5.4.7 and 5.4.10 Section 5 and Annexe A
	US-CTR-046		4-Minor Editorial	<i>04.02 Example of specialization/generalization</i> <i>4.3 Example of decomposition/aggregation</i>	Paragraph 6 of 4.2 and paragraph 3 of 4.3 us the phrases "given the Type" and "assigned the designation" when describing data elements at the two layers of abstraction. The same terminology (i.e., a parallel sentence structure) should be used for both layers. Solution	Editor should make changes to make consistent with US 044
	US-CTR-047		1-Major Editorial	<i>05.0 Bottom-up</i>	This subclause needs to be reviewed to clarify the difference	**Defer to Part 3 and

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SE Q #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
			Technical	<i>approach to data element registration</i>	between attribute and component. Solution	make consistent.
	US-CTR-048		2-Minor Technical	<i>05.01 General procedures for registering a data element</i>	Paragraph two should identify that the most basic information known about a data element would be those attributes included in the components for data element and value domain. Solution	***Tabled***
	US-CTR-049		1-Major Technical	<i>05.01 General procedures for registering a data element</i>	It would be valuable to register a data element from another Registration Authority – perhaps one from Health Care Finance Administration (HCFA) or one from Australia. [Consolidate this suggestion with the new application data element example BAT 031] Solution	Resolved by US 030 and 031
	US-CTR-050		4-Minor Editorial	<i>05.02.04.02 Name context and naming convention</i>	This TR implies that the naming convention is recorded in the attribute Context.context_description. However, nothing is said in the metamodel about the naming convention, which is a large part of ISO/IEC 11179 Part 5. Solution Continue to describe a naming convention, but do not store the naming convention description as context_description in the model.	Resolved by CAN 011 Naming convention is stored as a reference document.
	US-CTR-052		1-Major Technical	<i>05.06 Linking of data elements</i>	This clause might better be included in a section on derivation of data elements, so that it can be related to the metamodel registry. Derivation of data elements might be included in a separate TR, or it could be expanded and included in a separate clause in this TR. Since Clause 7 deals with derived data elements, including linking, that clause might be revised to include the detail now provided in Subclause 5.6. Solution	***Tabled*** See US 043 and 061 and harmonize.

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SE Q #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
					Remove first two sentences. Move remainder to clause 4.	
	US-CTR-053		4-Minor Editorial	<i>Annexe B</i>	This annexe is entitled Application of ISO/IEC 11179, Parts 4-6. The title should be changed to include Part 2 for Classification. Solution	Change heading of annexe to remove reference to Parts (Possibly to "Further Details")
	US-CTR-054		4-Minor Editorial	<i>0B.02 Representation attributes</i>	This subclause on "Representation attributes" should include Representation Class. Solution	See US 056 Clause does include "Representation Class"
	US-CTR-055		4-Minor Editorial	<i>0B.02.02 Value domain</i>	Value domain, in the paragraph about non-enumerated domains discusses a definition that describes the code set. The attribute for "value domain description" should be identified and listed as a separate value domain attribute. Solution	Replace Para 2 Sen 1 and 2 with "Non-enumerated domains have a set of values specified by a rule recorded in the non-enumerated domain description."
	US-CTR-056		4-Minor Editorial	<i>0B.02.03 Representational terms</i>	The subclause "Representational terms" should be named "Representation Class," and the subclause should discuss the attribute for "Representation qualifier." Solution	Accept Modify B 2.3 text and title and add qualifier sentence.
	US-CTR-057		4-Minor Editorial	<i>0B.05.01 Data element concept</i>	Data element concept should address Object Class, Property and qualifiers for each. Solution	Withdrawn Clause 5 is adequate without B 5.1
	US-CTR-058	Annexe B	4-Minor Editorial	<i>0B.06 Classification</i>	Classification is not included in Parts 4-6 of the model, which is supposedly the focus of Annexe B. Either the title of the annexe should be changed, or this section should be removed for another TR on Classification Schemes. Solution	See US 053

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SE Q #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
	US-CTR-059		Major technical	0	<p>There are many references to value domains treated as data elements in the text. Treating value domains this way is a choice the RA makes. The choice is made unannounced many times in the text and some organizations do not make the same choice under similar circumstances.</p> <p style="text-align: center;">Solution</p> <p>Add a clause stating explicitly that there is a choice when registering value domains. Some organizations register them as value domains and others consider them to be data elements. Number this clause 4 and change the numbering of the subsequent clauses and sub-clauses appropriately.</p> <p>Suggested Wording ----</p> <p>There is a choice when registering code sets and other Value Domains in an ISO/IEC 11179 metadata registry. Some Registration Authorities treat these sets as Value Domains and others treat them as Data Elements. For the purposes of this Technical Report, the choice will always be to treat the sets as Data Elements unless explicitly stated. This choice is made to help illustrate the way to register many different kinds of Data Elements, including examples for registering standard code sets as Data Elements. The choice made for this Technical Report should not be construed as a recommendation to all Registration Authorities of ISO/IEC 11179 metadata registries.</p> <p>To simplify the exposition later in this Technical Report, there will be a reference to this clause whenever the choice is made to consider a code set or other Value Domain as a Data Element. This way the reader of the Technical Report will be alerted every time the choice is made.</p>	Add suggested text as 1.4 in a single paragraph with the last sentence deleted and titled "Registration Approach – Data Elements and Value Domains"
	US-CTR-060		Major Technical	t	<p>Where the choice is made to register a value domain as a data element</p> <p style="text-align: center;">Solution</p>	Accept Add (Note: See Clause 1.4)

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SE Q #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
					Add reference to the clause in item #US-CTR-059.	
	US-CTR-061		3 Major Technica I	04.03	<p>Solution</p> <p>See attached proposed text for Derived Data Elements</p>	Replace Clause 7 with text proposed in attachment on Derived Data. Dan will edit for Judy.
	US-CTR-062		3 Major Technica I	04.02	<p>Solution</p> <p>Delete last two paragraphs and reword the previous paragraph as follows: Replace with one of the following:</p> <p>a. A pointer to a statement of how generalization/specialization can be registered using the related data element structure and/or the classification structure in the metamodel. This statement could utilize the material in 5.6, without the term “linking”.</p> <p>Do this if such a paragraph can be written and found acceptable in the Helsinki editing session. (This must be coordinated with any changes made in the Part 3 editing session.)</p> <p>-OR-</p> <p>b. If no statement can be agreed to as above, then include a statement that this is a principle to be used in the development of data elements. Make no statement of how to register this.</p>	Resolved by US 044 and 061
	US-CTR-063		3 Major Technica I	04.03	<p>Solution</p> <p>Delete last two paragraphs. Replace with one of the following:</p> <p>a. A pointer to a statement of how aggregation can be registered (in a revised section 5.5). If the intention is to create a new data element, composed of other data elements, then point to the new section on how to use the “derivation” structure. If the intention is to create a group of data elements that do not become a single data element, then show how to register a group, using text from 5.5 but not including 5.5.4</p> <p>Do this if such a paragraph can be written and</p>	Resolved by US 044 and 061

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SE Q #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
					<p>found acceptable in the Helsinki editing session. (This must be coordinated with any changes made in the Part 3 editing session.)</p> <p>-OR-</p> <p>b.If no statement can be agreed to as above, then include a statement that this is a principle to be used in the development of data elements. Make no statement of how to register this.</p>	

SE Q #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
JTC1/SC32/WG2/N0489 DTR 20943						
	GBR-CTR-001		1-Major Technical	CTR-No specific location	<p>In many places in the draft Technical Report there are references to the parts of ISO/IEC 11179. Part 3 of this standard is under active review, and the other parts are due for review shortly. The authors have made a major effort to be consistent with the current draft of 11179-3, but this only serves to highlight the inevitably tentative nature of references to the revision.</p> <p style="text-align: center;">Proposed Solution</p> <p>None supplied with comment</p>	Editor will make consistent with Part 3
	GBR-CTR-002	GBR-CTR-001	1-Major Technical	CTR-No specific location	<p>In many places in the draft Technical Report terms are used whose precise application is still under consideration in the review of 11179-3, e.g. data element, administered component.</p> <p style="text-align: center;">Proposed Solution</p> <p>None supplied with comment</p>	Make terminology consistent and define terms as need if the term is not in Part 3
	GBR-CTR-003	GBR-CTR-001	4-Minor Editorial	CTR- Introduction	<p>Paragraph 3 begins "The proposed revision of ISO/IEC 11179, Part 3". A reference to a proposed revision is not appropriate. Similar wording appears in other places, e.g. in clause 1.1.</p> <p style="text-align: center;">Proposed Solution</p> <p>Remove the words " The proposed revision of ".</p>	Accepted See US 011
	GBR-CTR-004	GBR-CTR-001	3-Major Editorial	CTR-02 References	<p>All the references are to the published versions of the parts of ISO/IEC 11179. This is inconsistent with the frequent references to the revision of Part 3.</p> <p style="text-align: center;">Proposed Solution</p> <p>Make the text references consistent with clause 2.</p>	Accepted See US 011
	GBR-CTR-005		4-Minor Editorial	CTR-No specific location	<p>Annex is frequently spelt "Annexe". JTC1 guidelines require "Annex".</p> <p style="text-align: center;">Proposed Solution</p> <p>Correct each occurrence to Annex.</p>	Rejected – ISO template enforces Annexe.

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SE Q #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
	GBR-CTR-006	GBR-CTR-001	2-Minor Technical	CTR-05 Bottom-up approach to data element registration	<p>The first paragraph includes the sentence "It includes attributes that are mandatory and fully defined by the metamodel, as well as those where the Registration Authority (RA) must establish its own profile of required attributes." The reference to the metamodel is not appropriate unless the revised Part 3 is being referenced.</p> <p>This problem also exists in other places.</p> <p>Proposed Solution</p> <p>None supplied with comment</p>	<p>Accepted</p> <p>See US 011</p>
	GBR-CTR-007		2-Minor Technical	CTR-05 Bottom-up approach to data element registration	<p>The third full paragraph ends "Annexe C provides a crosswalk from the example attributes named in this technical report to the ISO/IEC 11179 part 3 metamodel (Proposal for Comment, 2000-05-23)." The reference to a "proposal for Comment" is not clear.</p> <p>Proposed Solution</p> <p>None supplied with comment</p>	<p>Editor will modify crosswalk as text changes are made in body of document.</p>
	GBR-CTR-008	GBR-CTR-001	1-Major Technical	CTR-Annexe C Crosswalk of data element component names in technical report to ISO/IEC 11179-3 metamodel, revision 2000-05-34	<p>Annex C is not appropriate if the published Part 3 is being referenced.</p> <p>Proposed Solution</p> <p>If the TR is to be published before the revised Part 3, remove Annex C or amend it to match the published 11179-3.</p>	<p>Accepted</p> <p>See US 011</p>

Attachment

Derived Data Elements

Some data elements are derived from other data elements through some transformation or rule. These rules come in many types, and some examples are mathematical calculations (e.g., variance estimations), concatenation (e.g., formation of telephone number from its constituent parts), or aggregation (e.g., home mailing address). In principle, the rule can be expressed in a formal logic such as first order predicate logic, a programming language (e.g., C), mathematics, or some other formalism. In practice, this is not feasible or useful for very complex derivations. It is sufficient to describe a rule with enough detail so that the meaning of the derivation is understood. Formalizing rules so computers can make use of them is not practical in every circumstance.

Formally, a **derived data element** is a data element whose permissible values are in the range of some function on the permissible values of one or more input data elements. The function is called a **rule**. The rule must describe how the permissible values of the input data elements are used to obtain the permissible values for the derived data element. In addition, rules can derive more than one data element at once. The calculation of latitude and longitude of geographic points on the surface of the earth from a rectangular coordinate system is an example.

Data element aggregates, which are formatted sets of other data elements (see example #3 below), are a special class of derivations that Registration Authorities may choose not to register as (derived) data elements. Aggregates fall into a larger class of sets of data elements called **groups**, where a group is any finite set of two or more data elements. The choice to register aggregates as derived data elements or register them as groups is made by the individual Registration Authority. The choice is similar to the one that Registration Authorities must make when they register value domains (see Clause 4).

Examples

The following examples illustrate several kinds of derivations. These are only examples and are not meant to be a list of all possible types of derivation. The examples are

- 1) Mathematical: estimated yearly household income from monthly household income
- 2) Concatenation: household telephone number from household area code, household exchange, and household subscriber code
- 3) Aggregate: home address from home address building number, home address street name, home address city, home address state, and home address ZIP code (This example uses the formation of home addresses in the United States. The principle remains the same in other countries.)
- 4) Recode: eligibility for retirement in US Federal government from type of retirement, age of employee, employee years of service, and special requirements.

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The details for these examples follow in the tables below. A limited set of metadata attributes for the data elements in these examples is provided. Not all the attributes are required to illustrate the principles of derivation.

The examples use the names, definitions, and permissible values of the input and derived data elements. The name of the data elements is used in the description of the rule. This choice is made for readability. In practice, the data element identifier is used instead.

These examples make clear that the description of rules can serve two quite different purposes. They help a human understand the derivation when expressed in an easy to read format, and they can be expressed in a formal language translatable into computer code. The choice is up to the submitting organization and knowledge of the primary user of the registry.

It is possible that some derivations are so complex that expressing them in a formal language is not practicable. An example of such a derivation is the computation of the Consumer Price Index by the US Bureau of Labor Statistics. In this case, supplying pointers to documents describing the derivation is the only reasonable approach to expressing the rule.

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Example #1	Mathematical Derivation	
1	Input Data Element Name, Definition, and Permissible Values	
	Name	Monthly Household Income
	Definition	Total income earned by each member of the household 16 years of age or older for the previous month in whole dollars.
	Permissible Values	All non-negative integers
2	RULE	
	Description	Estimated Yearly Household Income = Monthly Household Income * 12
3	Derived Data Element Name, Definition, and Permissible Values	
	Name	Yearly Household Income
	Definition	Total income earned by each member of the household 16 years of age or older for the previous year in whole dollars.
	Permissible Values	All non-negative integers

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Example #2		Derivation by Concatenation
1 Input Data Element Name, Definition, and Permissible Values		
Name	Household Area Code	
Definition	A 3 digit location code assigned to a household by the telephone company.	
Permissible Values	3 Digit Numeric String	
2 Input Data Element Name, Definition, and Permissible Values		
Name	Household exchange	
Definition	A 3 digit code assigned to the household by the telephone company for local switching.	
Permissible Values	3 Digit Numeric String	
3 Input Data Element Name, Definition, and Permissible Values		
Name	Household Subscriber Code	
Definition	A 4 digit code assigned to a specific telephone line by the telephone company.	
Permissible Values	4 Digit Numeric String	
4 RULE		
Description	AAA-EEE-SSSS where AAA stands for Household Area Code EEE stands for Household Exchange SSSS stands for Household Subscriber Code.	
5 Derived Data Element Name, Definition, and Permissible Values		
Name	Household Telephone Number	
Definition	10 digit telephone number assigned to a household consisting of a 3 digit area code, 3 digit exchange, and a 4 digit subscriber code.	
Permissible Values	12 character strings of the form NNN-NNN-NNNN, where N is a numeric character	

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Example #3	Derivation by Aggregation	
1 Input Data Element Name, Definition, and Permissible Values		
Name	Home Address Building Number	
Definition	A unique number assigned by the Post Office to each location of a dwelling on a given street.	
Permissible Values	1-5 Digit Numeric String	
2 Input Data Element Name, Definition, and Permissible Values		
Name	Home Address Street Name	
Definition	The name of the street where a dwelling is located.	
Permissible Values	Character String	
3 Input Data Element Name, Definition, and Permissible Values		
Name	Home Address City	
Definition	Name of the city in which the home is located.	
Permissible Values	4 Digit Numeric String	
4 Input Data Element Name, Definition, and Permissible Values		
Name	Home Address State Code	
Definition	State in which home is located.	
Permissible Values	US Postal State Codes	
5 Input Data Element Name, Definition, and Permissible Values		
Name	Home Address ZIP Code	
Definition	US Postal ZIP Code for home.	
Permissible Values	US Postal ZIP Codes (5 Digit Numeric)	

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Example #3		Derivation by Aggregation
6	RULE	
	Description	Combine input data elements into following format: Home Address Building Number / Home Address Street Name \n Home Address City /, / Home Address State Code \n Home Address ZIP Code where the symbol / means string concatenation, and the symbol \n means begin a new line
5 Derived Data Element Name, Definition, and Permissible Values		
	Name	Home Address
	Definition	Full address of home.
	Permissible Values	Character string in format N+ (5 max) C+ (unlimited) C+ (unlimited), CC NNNNN where N signifies numeric characters, C signifies alpha characters, + means at least one character of the given type

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Example #4		Derivation by Recode
1 Input Data Element Name, Definition, and Permissible Values		
Name	Type of Retirement	
Definition	The name of the rules under which eligibility is determined.	
Permissible Values	Optional, Special Optional, Early Optional, Discontinued Service, Disability	
2 Input Data Element Name, Definition, and Permissible Values		
Name	Age of Employee	
Definition	Age in number of years since last birthday.	
Permissible Values	Integer between 0 and 125	
3 Input Data Element Name, Definition, and Permissible Values		
Name	Employee Years of Service	
Definition	Number of years employee has worked for US Federal government including active military service.	
Permissible Values	Integer between 0 and 125	
4 Input Data Element Name, Definition, and Permissible Values		
Name	Special Requirements	
Definition	Requirements that must be met for each type of retirement to be in effect.	
Permissible Values	Text	
5 RULE		
Description	See Attachment A for the description of this Rule. This lengthy attached text would be placed here as the value of the description attribute.	
6 Derived Data Element Name, Definition, and Permissible Values		

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Example #4		Derivation by Recode
	Name	US Federal Government Civil Service Retirement System, Employee Eligibility for Retirement
	Definition	Indicator whether US Federal employee is eligible to retire under Civil Service Retirement System
	Permissible Values	Yes, No

ATTACHMENT A

Example #4 - Rule Description

<p>Employee may retire under the Civil Service Retirement System (CSRS) at the following ages, and receive an immediate annuity, if employee has at least the amount of Federal Service shown in the table below:</p>			
Type of retirement	Minimum Age	Minimum Service(Years)	Special Requirements
Optional	62	5	None
	60	20	None
	55	30	None
Special Optional	50	20	<p>You must retire under special provisions for air traffic controllers or law enforcement and firefighter personnel. Air traffic controllers can also retire at any age with 25 years of service as an air traffic controller.</p>
Early Optional	Any Age 50	25 20	<p>Your agency must be undergoing a major reorganization, reduction-in-force, or transfer of function determined by the Office of Personnel Management. Annuity is reduced if under 55.</p>
Discontinued Service	Any Age 50	25 20	<p>Your separation is involuntary and not a removal for misconduct delinquency.</p>
Disability	Any Age	5	<p>You must be disabled for useful and efficient service in your current position and any other vacant position at the same grade or pay level within your commuting area and current agency for which you are qualified. Must be prior to retirement, or within one year of separation, except in cases of mental incompetence.</p>