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Title: **Canadian Position on Revision of ISO/IEC 11179**

Supersedes: CAC/JTC1/SC32 C0097R1

Source: CAC/JTC1/SC32, Canada

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Action: For action by SC32/WG2

For review and comment by SC32/WG1 to determine the impact of changes in CD 11179-3 on CD 15944-1.

Date: 17 September 2000

1. Referenced Documents

[1] ISO/IEC 11179-1:1999 Specification and standardization of data elements - Part 1: Framework for the Specification and Standardization of Data Elements

[2] ISO/IEC 11179-2:1999 Specification and standardization of data elements - Part 2: Classification for Data Elements

[3] ISO/IEC 11179-3:1994 Specification and standardization of data elements - Part 3: Basic Attributes of Data Elements

[4] ISO/IEC 11179-4:1995 Specification and standardization of data elements - Part 4: Rules and Guidelines for the Formulation of Data Definitions

[5] ISO/IEC 11179-5:1995 Specification and standardization of data elements - Part 5: Naming and identification principles for Data Elements

[6] ISO/IEC 11179-6:1997 Specification and standardization of data elements - Part 6: Registration of Data Elements

[7] ISO/IEC CD 11179-3 Information Technology - Data Management and Interchange - Metadata Registries (MDR) - Part 3: Registry Metamodel (MDR3). (SC32 N490)

[8] ISO/IEC TR 15452:1999 Information Technology – Specification of data value domains

[9] ISO/IEC PDTR 20943 Information Technology – procedures for achieving metadata registry (MDR) content consistency – Data elements

[10] SC32 N0267 Input on ISO/IEC 11179 Harmonization (Canadian Input to May 99 meeting of SC32, dated 11 May 1999)

[11] SC32 N0264 Impact of merging X3.285 with ISO/IEC 11179 (Canadian Input to May 99 meeting of SC32, dated 13 May 1999)

[12] ISO/IEC 11404:1996 Information Technology — Programming languages, their environments and system software interfaces — Language independent datatypes

[13] ISO/IEC FDIS 14769 Information Technology - Open Distributed Processing - Type Repository Function (SC7 N2339)

[14] ISO/IEC CD 15944-1 Information technology - Business Agreement Semantic Descriptive Techniques Part 1: Business Operational Aspects of Open-edi for Implementation

2. Work on ISO/IEC 11179-3 Revision

Canada has previously expressed its support (see [11]) for a metamodel approach to the standardization of shareable data. However, from the start we have expressed reservations about whether the 11179-3 revision is the appropriate project to be doing this work. We have suggested several alternative approaches (see [10] and [11]), but none has received support from other National Bodies.

The latest CD 11179-3 attempts to shift the focus of 11179 from "the standardization of data elements" to "metadata registries". This is simultaneously both a broadening of scope (from "data elements" to "metadata") and a narrowing of scope (from "standardization" to "registries").

We have concerns with this change of scope for two reasons:

1) Many of the existing uses of 11179-3 are in other standards, both ISO (e.g. CD 15944-1 [14] and TC211 IS 19115) and non-ISO (e.g. Dublin Core Document Properties). These standards reference the "basic attributes" of ISO/IEC 11179-3:1994. CD 11179-3 needs to continue to support such basic attributes in the revised standard, with explanations and justifications of any incompatibilities between the two versions. Canada would have preferred to see the metamodel as a separate part, rather than combined with part 3.

2) Any expansion of scope beyond data elements should be done within an overall Framework for Metadata Management, and should take account of other work on Metadata, such as [13].

Even without any expansion of scope, the 11179-3 revision needs to be reconciled with [12].

3. Progression of Changes in Parallel

In order to ensure consistency between the various parts of ISO/IEC 11179, Canada believes the changes required to each part should be identified and progressed in parallel.

3.1 Impact of 11179-3 revision on ISO/IEC 11179-1 - Framework

The framework is intended to describe the key components of the standard, and should therefore be extended to include a high-level description of the metamodel. Arguably, much of clauses 4.1 through 4.4, and clause 4.12 of [7] should be moved (or copied) to the framework.

In particular:

1. Figure 8 in clause 4.12 of [7] provides a clearer presentation of the components of a data registry than anything currently in [1].
2. Figure 1 in clause 4.4 of [7] is also a good candidate for the framework.

3.2 Impact of 11179-3 revision on ISO/IEC 11179-2 - Classification

The classification portion of the metamodel, clause 4.7 of [7], and the corresponding descriptions in clause 4.15 of [7], duplicates and in some cases differs from the specification in [2]. The duplication needs to be reduced and the differences reconciled.

In particular, [7] now allows any administered component to be classified, so part 2 needs to be expanded to support the classification of any data element component.

3.3 Impact of 11179-3 revision on ISO/IEC 11179-3 - Basic Attributes of Data Element

The major subject of the revised part 3 is now the metamodel. The “basic attributes of data elements” are a subset of the metamodel. However, the description of the basic attributes has been effectively removed, which we find unacceptable. The description of basic attributes needs to be restored for users of the standard who do not need a full metadata registry.

3.4 Impact of 11179-3 revision on ISO/IEC 11179-4 - Rules and guidelines for the formulation of data definitions

Although the name of the part uses the generic term "data definitions", the Scope statement quickly narrows this to "data element definitions".

The latest proposed meta-model associates "Definitions" with any "Administered Component".

Part 4 needs to be modified to support definitions for any "Data Ele

3.5 Impact of 11179-3 revision on ISO/IEC 11179-5 - Naming and identification principles for data elements

The latest proposed meta-model associates "Names" with any "Administered Component".

Part 5 needs to be modified to support names for any "Administered Component".

We also note, that these principles are specific to English, whereas the metamodel provides some minimal support for multiple languages.

3.6 Impact of 11179-3 revision on ISO/IEC 11179-6 - Registration of data elements

Part 6 needs to be modified to support registration of any "Administered Component".

3.7 Impact of 11179-3 revision on ISO/IEC TR 15452 - Specification of data value domains

As the metamodel in CD 11179-3 continues to evolve, we need to evaluate the impact on TR 15452, and apply changes as required to maintain consistency.

3.8 Impact of 11179-3 revision on ISO/IEC PDTR 20943 - Procedures for achieving metadata registry (MDR) content consistency

As the metamodel in CD 11179-3 continues to evolve, we need to evaluate the impact on PDTR 20943, and apply changes as required to maintain consistency. PDTR 20943 should not be allowed to progress faster than the 11179-3 revision.

4. Resolutions

Canada requests that the following resolutions be placed before the WG2 plenary.

4.1 Resolution 1: Support for Basic Attributes of Data Elements

WG2 shall restore support for the Basic Attributes of Data Elements in CD 11179-3, to continue support to users of the existing standard. "Users" here includes both "end users" as well as other standards which use existing 11179-3 as a normative reference including its key terms and definitions. (Canada has included a ballot comment to this effect.)

4.2 Resolution 2: New Project Initiation

WG2 shall initiate the required projects to progress changes to the other parts of ISO/IEC 11179, to reconcile them with the proposed revisions to part 3.

4.3 Resolution 3: Assignment of Editors

WG2 shall obtain the commitment of editors for the projects to progress changes to the other parts of ISO/IEC 11179.

4.4 Resolution 4: Creation of Working Draft

WG2 shall establish a time-frame for the creation of new working drafts for the other parts of ISO/IEC 11179, to avoid further delays.

4.5 Resolution 5: Need for Metadata Framework

Any expansion of the work of WG2, such as to general "metadata" in addition to "data elements", shall be done by first establishing a metadata framework.

4.6 Resolution 6: Scope of ISO/IEC 11179

WG2 shall not further expand the scope of ISO/IEC 11179, such as to general "metadata" in addition to "data elements", until such a framework exists.