

Title: Impact of merging X3.285 with ISO/IEC 11179
Supersedes: CAC/JTC1/SC32 C0047R1
Source: Canada
Status: National Body position
Action: For review and discussion by SC32/WG2 in Matsue
Date: 13 May 1999

1. References

- [1] ISO/IEC FDIS 11179-1 Specification and standardization of data elements - Part 1: Framework for the Specification and Standardization of Data Elements (SC32 N0243)
- [2] ISO/IEC FDIS 11179-2 Specification and standardization of data elements - Part 2: Classification for Data Elements
- [3] WD 11179-3 Specification and standardization of data elements - Part 3: Basic Attributes of Data Elements (1999-05-05) (Draft Input to Matsue)
<ftp://sdct-sunsv1.ncsl.nist.gov/x318/sc32wg2/projects/11179p3r/Rev11179-3-06May1999.doc>
- [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] ANSI X3.285 Metamodel for the Management of Shareable Data
- [8] SC32 N0267 (WG2 WAS 0004) Input on ISO/IEC 11179 Harmonization (Canadian Input to February 99 meeting of WG2, dated 2 February 1999) (C0039R3)

2. Support for Metamodel Approach

Canada supports the metamodel approach to the standardization of shareable data, but believes that incorporation of X3.285 into ISO/IEC 11179 requires changes to all parts of ISO/IEC 11179, not just to part 3.

The purpose of this document is to explain the rationale for this position.

3. Types of Data Element Components

The metamodel identifies the following types of data element components:

- Classification scheme
- Conceptual Domain
- Data Element
- Data Element Concept
- Object Class
- Property
- Representation Class
- Rule
- Value Domain.

We show this list to draw attention to the fact that the metamodel is not just about “data elements”. Further, the metamodel treats all these data element components in a similar manner, such that they may all be:

- classified (and should therefore be supported by part 2 - classification)
- defined (and should therefore be supported by part 4 - formulation of data definitions)
- named (and should therefore be supported by part 5 - naming and identification principles)
- registered (and should therefore be supported in part 6 - registration)

We examine the impacts on each part in further detail in the following sections.

4. Impact of X3.285 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 clause 8 in [3] should be moved (or copied) to the framework.

In particular:

1. Figure 1 in clause 8.5 of [3] provides a clearer presentation of the components of a data registry than anything currently in [1].
2. Figure 2 in clause 8.7 of [3] is also a good candidate for the framework.

5. Impact of X3.285 on ISO/IEC 11179-2 - Classification

The classification portion of the metamodel, including clauses 8.14-16 of [3], and the corresponding descriptions in clause 9 of [3], duplicates and in some cases differs from the specification in [2]. The duplication needs to be reduced and the differences reconciled.

In particular, the metamodel in [3] now allows any data element component to be classified, so part 2 needs to be expanded to support the classification of any data element component.

6. Impact of X3.285 on ISO/IEC 11179-3 - Basic Attributes of Data Element

The major subject of part 3 is now the metamodel. The “basic attributes of data elements” are a subset of the metamodel. We therefore propose that the name of part 3 be changed to:

“Metamodel of Data Element Components and their Basic Attributes”.

Also, a more logical sequence for the parts would be for the metamodel to be part 2 and for classification to be part 3.

7. Impact of X3.285 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 Element Component”.

8. Impact of X3.285 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 “Data Element Component”.

We also note, that these principles are specific to English, whereas the metamodel provides some minimal support for multiple languages.¹

9. Impact of X3.285 on ISO/IEC 11179-6 - Registration of data elements

Part 6 needs to be modified to support registration of any “Data Element Component”, as listed in section 3 above.

10. 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.

We have previously suggested in [8] that we should not be constrained by the existing partitioning. Because the metamodel overlaps significantly with at least parts 2 and 6, it

¹ Canada plans to submit a proposal on the requirements for multi-lingual support at a future date.

may be that parts 2, 3 and 6 should be combined. Parts 1, 4 and 5 are sufficiently self-contained to justify being kept separate.

11. Need to establish projects and procedures

WG2 appears to be using the fact that ISO/IEC 11179-3 is due for revision as an opportunity for including the X3.285 metamodel. We have tried to demonstrate above that it is not possible to add this metamodel to part 3 in isolation.

WG2 needs to establish procedures to accomplish the merger, including:

- projects under which each new part can be progressed.
- editorial support for new working drafts for each part
- meeting time to discuss the impact on each part

If such procedures are established, Canada will submit detailed change proposals to the next meeting.

12. Questions

Is a single project acceptable for progressing multiple parts?

Would it be simpler to consolidate some parts?