Australian Standard™

Information technology—Procedures for achieving metadata registry content consistency

Part 3: Value domains

STANDARDS AUSTRALIA

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PREFACE

This Standard was prepared by the Standards Australia Committee IT-027, Data Management and Interchange.

This Standard is identical with, and has been reproduced from ISO/IEC TR 20943-3:2004, *Information technology—Procedures for achieving metadata registry content consistency—* Part 3*: Value domains*.

The objective of this Standard is to provide Australian database and data managers with procedures for consistent registration of value domains and attributes for use in metadata registries.

This Standard is Part 1 of AS 20943, *Information technology—Procedures for achieving metadata registry content consistency*, which is published in parts as follows:

Part 1: Data elements
Part 3: Value domains (this Standard)

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text 'this Technical Report' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO/IEC		AS	
11179	Information technology—Metadata registries (MDR)	11179	Information technology—Metadata registries (MDR)
11179-1	Part 1: Framework for the specification and standardization of data elements	11179.1	Part 1: Framework
11179-2	Part 2: Classification for data elements	11179.2	Part 2: Classification for data elements
11179-3	Part 3: Registry metamodel and basic attributes	11179.3	Part 3: Registry metamodel and basic attributes
11179-4	Part 4: Rules and guidelines for the formulation of data definitions	11179.4	Part 4: Formulation of data definitions
11179-5	Part 5: Naming and identification principles for data elements	11179.5	Part 5: Naming and identification principles for data elements
11179-6	Part 6: Registration of data elements	11179.6	Part 6: Registration

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INTRODUCTION

The exchange of metadata between metadata registries based on ISO/IEC 11179, *Information technology — Metadata registries* (all parts), depends not only on registry software that conforms to the standard, but also on metadata contents that are comparable between registries. While the standard has provisions for data specification and registration, there are pragmatic issues pertaining to populating the registries with content. Based on the experiences of organizations that are implementing the standard, technical reports to explore content issues will help current and future users.

Metadata registries can be used to register data elements, value domains, other objects, and associated attributes for many kinds of organizational data resource collections. Metadata registries can store information describing value domains used to specify the allowed values of a data element, the codes in a standard list, and classification schemes.

This technical report is based on ISO/IEC 11179-3:2003 of the six-part ISO/IEC 11179 International Standard that describes the organization of a registry for managing the semantics of data. The standard specifies the structure of a registry in the form of a conceptual model. The conceptual model is not intended to be a logical or physical data model for a computer system.

ISO/IEC 11179-3:2003, models a value domain and an associated conceptual domain. Conceptualization and articulation of rules and relationships are needed in the creation of conceptual domains and value domains. Reuse of value domains should be enabled and regularized. *Elementarily equivalent domains* have a relationship between their values that needs to be captured in a metadata registry. Some *conceptually equivalent domains* have relationships between their values, too. These also need to be captured. This Technical Report describes how this can be accomplished.

While metadata registries can be used for storing information about a variety of metadata items, this Technical Report addresses only value domains, conceptual domains, and their associated attributes and relationships. The goal of this paper is to ensure that there is a common understanding of the content of the value domain attributes so that metadata can be shared between registries, despite their differences.

AUSTRALIAN STANDARD

Information technology—Procedures for achieving metadata registry content consistency

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1 Scope

1.1 Background

An ISO/IEC 11179 metadata registry (MDR) is a tool for the management of shareable data. It is a comprehensive, authoritative source of reference information about data. It supports the standardization and harmonization processes by recording and disseminating descriptions of data, which facilitates data sharing among organizations and users. It provides links to documents that refer to specific data elements, value domains, and classification schemes and to information systems where those objects are used. When used in conjunction with a database, the registry enables users to understand any information obtained from the database better.

A registry does not contain data itself. It contains the metadata that is necessary to clearly describe, inventory, analyse, and classify data. It provides an understanding of the meaning, representation, and identification of units of data. This International Standard identifies the information elements that need to be available for determining the meaning of data to be shared between systems.

1.2 Purpose

The purpose of this Technical Report is to describe a set of procedures for the consistent registration of value domains and their attributes in a registry. This Technical Report is not a data entry manual, but a user's guide for conceptualizing a value domain and its components for the purpose of consistently establishing good quality metadata. An organization may adapt and/or add to these procedures as necessary.

1.3 Limits of this Technical Report

The scope of this Technical Report is limited to value domains, conceptual domains, and their associated attributes and relationships. Examples are used throughout the TR to illustrate the concepts described.

1.4 Registration approach — value domains and data elements

There is a choice when registering value domains in an MDR. 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 value domains unless explicitly stated. This choice is made to help illustrate the way to register many different kinds of value domains.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.