

ISO/IEC 15944-10:2013-02 (E)

Information technology - Business Operational View - Part 10: IT-enabled coded domains as semantic components in business transactions

Contents		Page
Foreword	vi
0	Introduction	vii
0.1	Overview of purpose and nature of coded domains	vii
0.2	Benefits of the use of coded domains	viii
0.3	Identification, mapping and IT-enablement of existing standards for widely-used code sets	ix
0.4	Link to fundamental components in Business Transaction Model (BTM)	xi
0.5	IT-enabled and content predefined Semantic Components	xii
0.6	Coded domains as reusable business objects	xiii
0.7	Use of "Person", "organization" and "party" in the context of business transaction and commitment exchange	xiv
0.8	Importance and role of terms and definitions	xv
0.9	Use of "identifier" as "identifier (in business transaction)" to prevent ambiguity	xvi
0.10	Organization and description of document	xvii
1	Scope	1
1.1	Statement of Scope	1
1.2	Exclusions	2
1.3	Aspects currently not yet addressed	2
1.3.1	Addressing "Quadrant B, C & D" in Figure 5	2
1.3.2	Use of coded domains in support of the "Process" component in the Business transaction model	2
1.3.3	Use of coded domains with respect to Persons and in particular "individuals" and associated privacy protection requirements	2
1.3.4	Use of coded domains in support of "public policy" requirements and in particular individual accessibility	2
1.3.5	Detailed levels of rules pertaining to change management aspects of coded domains	3
1.3.6	Differentiation of categories and levels of Source Authorities (SA) for coded domains	3
1.4	IT-systems environment neutrality	3
2	Normative references	3
3	Terms and definitions	4
4	Symbols and abbreviation	38
5	Fundamental principles governing coded domains	38
5.1	Introduction	38
5.2	Need to be able to use coded domains in support of commitment exchange	40
5.3	Coded domains based on clear, predefined rules, i.e., "rule-based"	41
5.3.1	Requirements of rule-based coded domains as a whole	41
5.3.2	Rule-base for IT enablement of a coded domain	43
5.3.3	Rule-base for structuring a coded domain	43
5.4	Separation of the IT interface from human interface requirements	44
5.5	Specification and representation of coded domains in an IT-platform neutral manner	45
6	Business operational view identification and description of coded domains	46
6.1	Construct of coded domain	46
6.1.1	Identification of coded domains	47
6.1.2	Levels of Semantic unambiguity	48

6.1.3	Rule-base of a coded domain	49
6.1.4	Table of ID codes and HIEs	49
6.2	Characteristics of coded domains	49
6.2.1	"for free" or "for a fee" coded domains	49
6.2.2	Exhaustiveness of coded domains	50
6.2.3	Semantic granularity	51
6.2.4	Openness of coded domains	51
7	Rules governing rule-base of coded domains	52
7.1	Introduction	52
7.2	Specification of a boundary of a coded domain and inclusion of its members	53
7.3	Specification of exclusionary rules for a coded domain	54
7.4	Source(s) of rule-base governing a coded domain	54
8	Rules for management of ID codes in coded domains	55
8.1	Introduction	55
8.2	Generic rules for the management of a coded domain	55
8.3	Rules governing assignment of ID codes	55
8.4	Rules governing the change management of entries in the coded domain	56
8.4.1	Change management of ID codes	56
8.4.2	Change management of HIEs	57
8.5	Registration of user extensions	57
9	Rules for specifying Human Interface Equivalent (HIEs) to an ID Code in a coded domain	57
9.1	Multiple Human Interface Equivalent (HIEs) for an ID code in a coded domain	57
9.2	Standard structure for semantics of a Human Interface Equivalent (HIE)	58
9.3	Rules governing linguistic (written) representations as Human Interface Equivalent (HIEs) of ID codes as required values in coded domains	59
9.4	Individual accessibility of HIEs of coded domains	59
9.5	Rules governing composite semantics	60
10	Coded domain and controlled vocabularies	60
10.1	Introduction	60
10.2	Rules common to controlled vocabularies and coded domains	61
10.3	Rules governing a controlled vocabulary	61
10.4	Rules governing a coded domain	62
11	Rules governing the registration of coded domains as re-usable business objects	63
11.1	Principles of registration	63
11.2	Process of registration	65
11.3	Coded Domain Registration scheme	65
12	IT-enablement of coded domains	66
12.1	Introduction	66
12.2	Templates for IT-enabled coded domains - Attributes for Scoping an Open-edi scenario (OeS)	66
12.2.1	Purpose	66
12.2.2	Template structure and content	66
12.3	Template for Scoping Open-edi scenarios	66
12.4	Specification and consolidated template of attributes of Open-edi scenarios, roles, information bundles (IBs) and semantic components (SCs)	70
Annex A (normative)	Coded domain registration administration attributes	74
Annex B (normative)	Use of IT-enabled coded domains to ensure semantic interoperability in support of the "UN Convention on the Rights of Persons with Disabilities"	79
Annex C (informative)	Concept and definition of "coded domain"	81
Annex D (informative)	Case Study: Example of "e-potato"	87

Annex E (informative) Case study: Example of a coded domain with two writing systems for Human Interface Equivalents (HIEs) of a set of ID codes - in Russian use of the Cyrillic alphabet and the romanized form	89
Annex F (informative) Case study: Example of coded domain in Matrix form and XML format as Annex G (informative) Determining whether the membership in a coded domain is exhaustive or non-exhaustive	99
Annex H (informative) Examples of identification of different object classes within a coded domain through the use of semantic qualifiers	104
Bibliography	112
Index of Figures Figure 1 -- Need for standard and methodologies for coded domains	x
Figure 2 -- Business Transaction Model -- Fundamental components (Graphic Illustration)	xi
Figure 3 -- Relation of "recorded information", "data" and "computer system" in electronic business transactions / Open-edi	xii
Figure 4 -- Relations "data" and "data elements" in electronic business transactions / Open-edi	xii
Figure 5 -- Purpose of coded domain as IT-enabled and content predefined semantic components	xiii
Figure 6 -- Illustration of Elements of a Data Structure for Human Linguistic Equivalents of an ID Code - Written form	58
Index of Tables Table 1 -- Construct of a coded domain	46
Table 2 -- Level of Semantic Unambiguity based on the UN Convention of rights of persons with disabilities (in support of a collaboration space pertaining to commitment exchange)	48
Table 3 -- Template for specifying the scope of an Open-edi scenario	67
Table 4 -- Consolidated template of attributes of Open-edi scenarios (OeS), roles, information bundles (IBs) and semantic components (SCs)	71
Table A.1 -- A.Administrative attributes for registration of a coded domain as a business object	76
Table B.1 -- Codes representing levels of semantic unambiguity in support of semantic interoperability equivalency requirements	80
Table D.1 -- Illustrating IT Interfaces and different HIEs using the WCO HS code for "potato"	88
Table E.3 -- Use of Columns in Table E.4	89
Table E.4 -- eBusiness vocabulary terms in Russian Cyrillic Alphabetic order	90
Table E.5 -- Use of Columns in Table E.6	90
Table E.6 -- eBusiness vocabulary terms in Russian Romanized Alphabetic order	91
coded domain	100
Table H.1 -- Identification of Essential Data Elements in an ISO 3166-1 entry	106
Table H.2 -- Use of semantic qualifier codes for ISO 3166-1 in an Open-edi and eBusiness context	107
Table H.3 -- Identification of essential data elements in an ISO 4217 entry	110
Table H.4 -- Use of semantic qualifier codes for ISO 4217 in an Open-edi and eBusiness context	111