ISO 19103:2024-09 (E)

Geographic information - Conceptual schema language

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Symbols and abbreviated terms 11

5 Conformance 12
5.1 Conformance overview 12
5.2 Conceptual schemas modelled in UML 12

6 Overview 12

7 Use of UML 13
7.1 General use of UML 13
7.2 Classifiers 15
7.2.1 General 15
7.2.2 Classes 16
7.2.3 Data types 16
7.2.4 Enumerations 17
7.2.5 Interfaces 18
7.3 Features 19
7.3.1 General 19
7.3.2 Properties 19
7.3.3 Operations 23
7.4 Relationships 23
7.4.1 General 23
7.4.2 Associations 23
7.4.3 Generalizations 25
7.4.4 Realizations 25
7.4.5 Template bindings 26
7.5 Packages 26
7.6 Comments 28
7.7 Constraints 28
7.8 UML profile 28
7.9 Naming provisions 35
7.10 Diagrams 38
7.10.1 General 38
7.10.2 Package diagrams 39
7.10.3 Class diagrams 39
7.11 Reusable types 40
7.11.1 General 40
7.11.2 Core data types 40
7.11.3 Common types 40

8 Core data types 40
8.1 General 40

8.1.1 Relation with ISO/IEC 11404 40
8.1.2 Modelling choice for the core data types 42
8.2 of the Core Data Types abstract schema 44
8.2.1 AnnualDate 44
8.2.2 AnnualMonth 44
8.2.3 Binary 44
8.2.4 Bit 45
8.2.5 Boolean 45
8.2.6 Character 45
8.2.7 CharacterString 45
8.2.8 Date 46
8.2.9 DateTime 46
8.2.10 Decimal 46
8.2.11 Digit 46
8.2.12 Integer 47
8.2.13 IRI 47
8.2.14 Measure 47
8.2.15 Number 48
8.2.16 PositionInTime 48
8.2.17 Rational 50
8.2.18 Real 50
8.2.19 RecurringPositionInTime 50
8.2.20 Sign 51
8.2.21 Time 51
8.2.22 URI 51
8.2.23 UUID 52
8.2.24 Vector 52
8.2.25 Year 53
8.2.26 YearMonth 53

Annex A (normative) Abstract test suite 54

Annex B (informative) Backward compatibility 57

Annex C (informative) On conceptual schema languages 63

Annex D (informative) UML notation reference 64

Annex E (informative) Differences between UML 2.5.1 and UML 2.4.1 71

Annex F (informative) Mapping between ISO 19103 and ISO/IEC 11404 data types 72

Annex G (informative) Conceptual schema representations 75

Annex H (informative) Code sets 76

Bibliography 86