

ISO 10303-14 :2005-10 (E)

Contents

- 1 Scope 1
- 2 Normative references 2
- 3 Terms and Definitions 2
 - 3.1 Terms defined in ISO 10303-1 2
 - 3.2 Terms defined in ISO 10303-11 2
 - 3.3 Other definitions 3
- 4 Fundamental principles 4
 - 4.1 Overview 4
 - 4.2 Fundamental principles of the execution model 5
 - 4.2.1 Overview 5
 - 4.2.2 Binding process 5
 - 4.2.3 Instantiation process 6
 - 4.3 Implementation environment 8
- 5 Conformance requirements 8
 - 5.1 EXPRESS-X conformance classes 8
 - 5.1.1 Overview 8
 - 5.1.2 EXPRESS-X parser conformance classes 9
 - 5.1.3 EXPRESS-X mapping engine conformance classes 9
 - 5.1.4 Consistency checking of EXPRESS-X parsers 9
- 6 Language specification syntax 10
- 7 Basic language elements 11
 - 7.1 Overview 11
 - 7.2 Reserved words 11
- 8 Data types 12
 - 8.1 Overview 12
 - 8.2 View data type 12
- 9 Declarations 12
 - 9.1 Overview 12
 - 9.2 Binding 13
 - 9.2.1 Overview 13
 - 9.2.2 Binding extent 13
 - 9.2.3 Qualification of the binding extent 14
 - 9.2.4 Identification of view and target instances 15
 - 9.2.5 Equivalence classes and the instantiation process 16
 - 9.2.6 Ordering of view and target instances 17
 - 9.3 View declaration 18
 - 9.3.1 Overview 18
 - 9.3.2 View attributes 18
 - 9.3.3 View partitions 19
 - 9.3.4 Constant partitions 20
 - 9.3.5 Dependent views 20
 - 9.3.6 Specifying subtype views 21
 - 9.3.7 Supertype constraints 22

9.4	Map declaration.....	23
9.4.1	Overview	23
9.4.2	Evaluation of the map body	24
9.4.3	Iteration under a single binding instance	24
9.4.4	Map partitions	27
9.4.5	Mapping to a type and its subtypes	28
9.4.6	Explicit declaration of complex entity data types	31
9.4.7	Dependent map	33
9.5	Schema view declaration.....	34
9.6	Schema map declaration	34
9.7	Local declaration.....	36
9.8	Constant declaration.....	37
9.9	Function declaration.....	37
9.10	Procedure declaration.....	37
9.11	Rule declaration	37
10	Expressions	37
10.1	Overview	37
10.2	View call	39
10.3	Map call.....	41
10.4	Partial binding calls.....	43
10.5	FOR expression.....	44
10.6	IF expression	47
10.7	CASE expression	47
10.8	Forward path operator	48
10.9	Backward path operator	49
11	Built-in functions	51
11.1	Extent - general function.....	51
12	Scope and visibility	51
12.1	Overview	51
12.2	Schema view	52
12.3	Schema map	53
12.4	View and dependent view	53
12.5	View partition label.....	53
12.6	View attribute identifier	53
12.7	FOR expression.....	54
12.8	Map and dependent map	54
12.9	FROM Language Element	54
12.10	Instantiation Loop	54
12.11	Path expression.....	55
13	Interface specification	55
13.1	Overview	55
13.2	The REFERENCE language element.....	55

Annex A (normative) Information object registration	57
Annex B (normative) EXPRESS-X language syntax	58
B.1 Tokens	58
B.2 Grammar rules	59
B.3 Cross reference listing	65
Annex C (normative) EXPRESS-X to EXPRESS transformation algorithm	69
Annex D (informative) Implementation considerations	71
D.1 Push mapping	71
D.2 Pull mapping	71
D.3 Support of constraint checking	71
D.4 Support for updates	71
Annex E (informative) Path operator unnest function	73
Annex F (informative) Mapping table semantics	74
F.1 Delimiter symbols	74
F.2 Aggregation symbols	76
F.3 Equal sign	77
F.4 Parentheses	77
F.5 Square brackets	78
F.6 Example	78
Bibliography.....	80
Index.....	81

Tables

Table 1-Language Subsets	8
Table 2-Additional EXPRESS-X keywords	11
Table 3-Operator precedence	38
Table 4-Scope and identifier defining items	51