INTERNATIONAL STANDARD ISO 19108:2002
TECHNICAL CORRIGENDUM 1

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Geographic information — Temporal schema

TECHNICAL CORRIGENDUM 1

Information géographique — Schéma temporel

RECTIFICATIF TECHNIQUE 1

Technical Corrigendum 1 to ISO 19108:2002 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics.*

Page 3, Clause 4

Replace 4.1.5 with the following:

4.1.5
edge
1-dimensional **topological primitive**

[ISO 19107]

NOTE The geometric realization of an edge is a curve. The boundary of an edge is the set of one or two nodes associated to the edge within a topological complex.

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Replace 4.1.8 with the following:

4.1.8
feature association
relationship that links instances of one feature type with instances of the same or a different feature type

[ISO 19110]

NOTE 1 A feature association may occur as a type or an instance. Feature association type or feature association instance is used when only one is meant.

NOTE 2 Feature associations include aggregation of features.

Replace 4.1.9 with the following:

4.1.9
feature attribute
characteristic of a **feature**

[ISO 19101]

NOTE A feature attribute has a name, a data type and a value domain associated to it.

Page 4, Clause 4

Replace 4.1.15 with the following:

4.1.15
geometric primitive
geometric object representing a single, connected, homogeneous element of space

[ISO 19107]

NOTE Geometric primitives are non-decomposed objects that present information about geometric configuration. They include points, curves, surfaces and solids.

Page 9, subclause 5.2.3.2

Replace 5.2.3.2 a) with the following:

a) *position:TM_TemporalPosition* shall provide the position of this TM_Instant. The TM_TemporalPosition shall be associated with a single temporal reference system, as specified in 5.3. An instance of TM_Instant is an identifiable object, while an instance of TM_TemporalPosition is a data value. The TM_TemporalPosition of a given TM_Instant may be replaced by an equivalent TM_TemporalPosition associated with a different temporal reference system.

Page 10, subclause 5.2.3.5

Replace 5.2.3.5 b) with the following:

b) If this TM_Primitive is a TM_Period and other is a TM_Instant, the operation shall return a value for TM_RelativePosition as follows:

Returns:	If:
Before	self.end.position < other.position
EndedBy	self.end.position = other.position
Contains	self.begin.position < other.position AND self.end.position > other.position
BegunBy	self.begin.position = other.position
After	self.begin.position > other.position

Page 11, subclause 5.2.3.5

Replace 5.2.3.5 d) with the following:

d) If both this TM_Primitive and other are TM_Periods, the operation shall return a value for TM_RelativePosition as follows:

Returns:	If:
Before	self.end.position < other.begin.position
Meets	self.end.position = other.begin.position
Overlaps	self.begin.position < other.begin.position AND self.end.position > other.begin.position AND self.end.position < other.end.position
Begins	self.begin.position = other.begin.position AND self.end.position < other.end.position
BegunBy	self.begin.position = other.begin.position AND self.end.position > other.end.position
During	self.begin.position > other.begin.position AND self.end.position < other.end.position
Contains	self.begin.position < other.begin.position AND self.end.position > other.end.position
Equals	self.begin.position = other.begin.position AND self.end.position=other.end.position
OverlappedBy	self.begin.position > other.begin.position AND self.begin.position < other.end.position AND self.end.position > other.end.position
Ends	self.begin.position > other.begin.position AND self.end.position = other.end.position
EndedBy	self.begin.position < other.begin.position AND self.end.position = other.end.position
MetBy	self.begin.position = other.end.position
After	self.begin.position > other.end.position

The operation shall raise an exception if any input value of TM_TemporalPosition is indeterminate.

Page 12, subclause 5.2.3.7

Replace 5.2.3.7 e) with the following:

e) *timeIndicator [0..1]:CharacterString* = "T" shall be included whenever the sequence includes values for units of less than a day.

Page 14, subclause 5.2.4.2

Replace 5.2.4.2 with the following:

A topological primitive represents a single non-decomposable element of topology and its relationships to other topological primitives within a topological complex. The two topological primitives relevant for temporal information are the node, which is 0-dimensional, and the edge, which is 1-dimensional. In the temporal schema, they are represented by two subclasses of TM_TopologicalPrimitive: TM_Node and TM_Edge (Figure 6). When an application includes information about temporal position as well as connectivity, a TM_TopologicalPrimitive may be associated with a TM_GeometricPrimitive of the same dimension. Because topological primitives are intended to provide information about connectivity, their most significant characteristics are the associations that link them to each other. Another consequence is the requirement that every TM_TopologicalPrimitive shall be a member of one and only one TM_TopologicalComplex.

Page 17, subclause 5.3.1

Replace 5.3.1 b) with the following:

b) *domainOfValidity:EX_Extent* shall identify the space and time within which the TM_ReferenceSystem is applicable. The data type EX_Extent is specified in ISO/TS 19103. It permits a description of both spatial and temporal extent. This attribute shall be used whenever an application schema includes TM_TemporalPositions referenced to a TM_ReferenceSystem which has a valid extent that is less than the extent of a data set containing such values.

Page 18, subclause 5.3.2.1

Replace Figure 8 with the following:

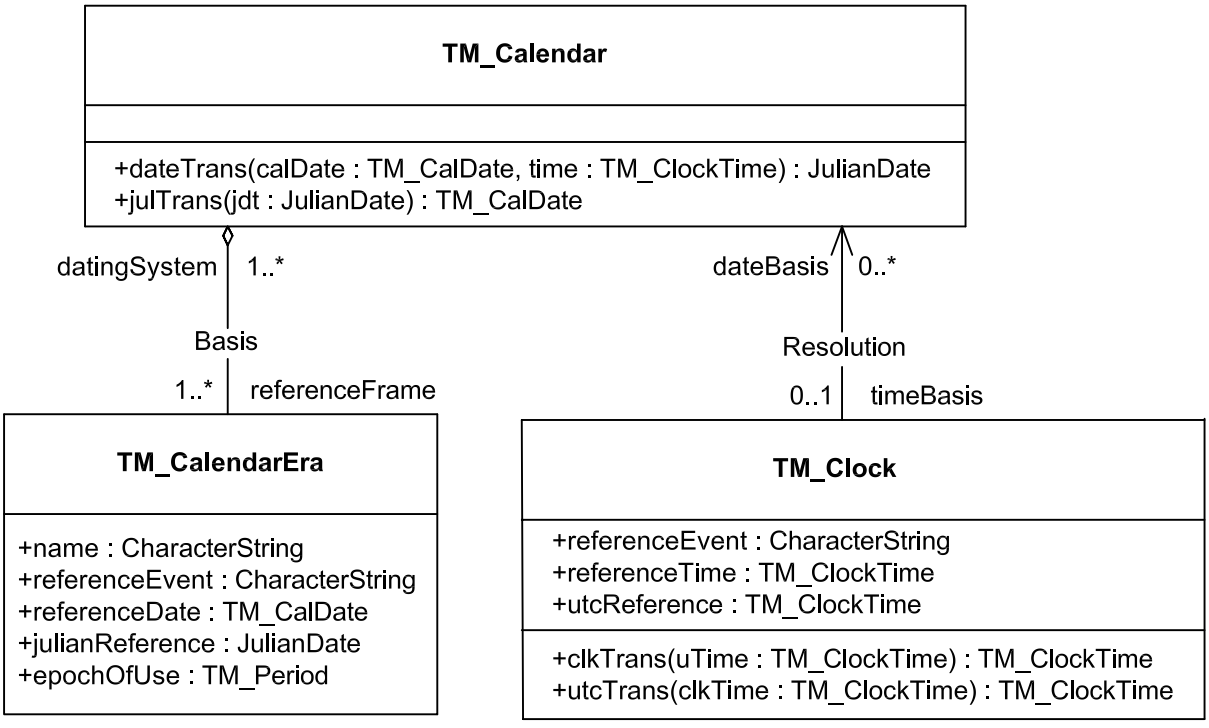

Figure 8 — Calendar and clock

Page 23, subclause 5.4.5.1

Replace 5.4.5.1 a) with the following:

a) *coordinateValue:Number* holds the distance from the scale origin expressed as a multiple of the standard interval associated with the temporal coordinate system.

Page 33, subclause B.1.2

Replace the first paragraph with the following:

Figure B.2 illustrates an alternative way of using a TM_GeometricPrimitive for a temporal feature attribute. In this case, the feature attribute periodOfOccupancy is represented as a UML class that is linked to Building by a UML association. PeriodOfOccupancy is a subtype of TM_Period. It inherits the association roles begin and end from TM_Period, but it restricts the data type in each case to DateTime. (At the TM_Period level, the data type for these attributes is TM_TemporalPosition.) It also inherits the interfaces TM_Order, from which it uses the operation relativePosition(other : TM_Primitive) : TM_RelativePosition, and TM_Separation, from which it uses the operations length() : TM_Duration and distance (other : TM_GeometricPrimitive) : TM_Duration.

Page 38-40, Table C.1

Replace row 3 with the following:

3	domainOfValidity	Limits of space and time within which the temporal reference system is used	C/ Extent of temporal reference system less than extent of data set in which it is used?	N	EX_Extent	ISO/TS 19103

Replace row 8 with the following:

8	referenceFrame	The calendar eras associated with the calendar being described	M	N	Role name	TM_CalendarEra

Replace row 9 with the following:

9	timeBasis	The clock that is used with this calendar to define temporal position within a calendar day	O	1	Role name	TM_Clock

Replace row 18 with the following:

18	referenceTime	Time of the reference event for this clock	M	1	TM_ClockTime	Time in the clock being described

Replace row 28 with the following:

28	component	Ordinal eras that make up the highest level of this ordinal reference system	M	1	Role name	TM_OrdinalEra

Replace row 33 with the following:

33	member	Ordinal eras that subdivide this ordinal era	M	1	Role name	TM_OrdinalEra

Page 44, Table D.2

Replace row 10 with the following:

TM_CalendarEra.julianReference	1721423.25