

EasyWay



How location referencing works in DATEX II?

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Summary



- The situation in DATEX (I)**
- The concepts for DATEX II**
- The proposed solutions**
- The transversal dimension**
- To go farther ...**
- Standardisation**
- Conclusions and outlooks**



Works carried on in the '90s

Principle: to not develop a new location referencing system but re-use an existing widely-used LRS

Solution: ALERT-C location referencing with some extents (use of relative distances, transversal location)

Measured data: notion of measurement sites defined in advance



To fulfil the needs of the different publications (situations, journey, measurement sites, VMS)

To deal with the different types of locations

To not develop new location referencing systems but re-use existing ones

To keep on standardised solutions

To introduce flexible/extensible solutions



New high-level concepts:

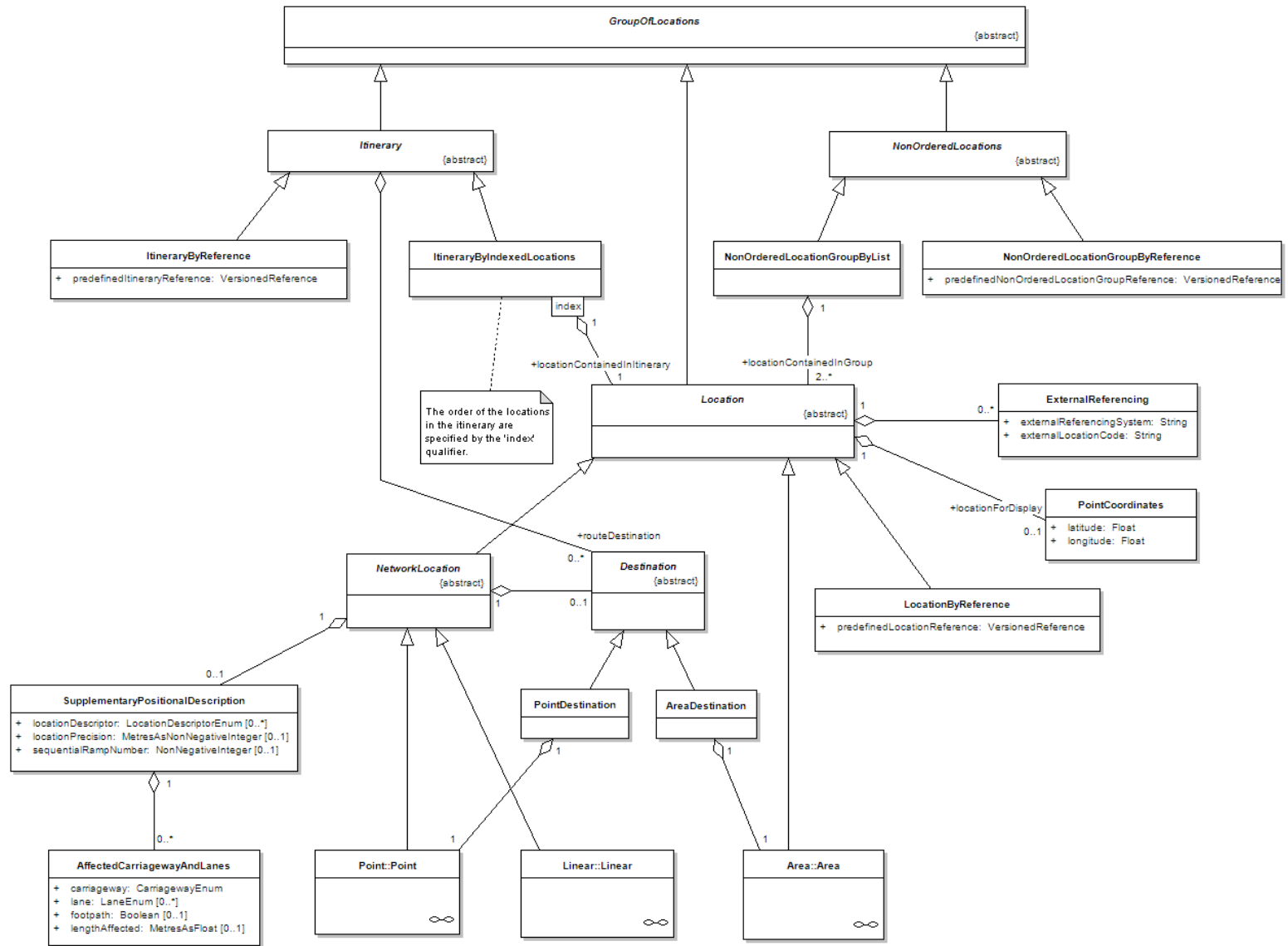
- Group of locations (package “GroupOflocations”)
- Notions of journey and of non-ordered group of locations

Definition of an abstract class model with concepts of areas, linear locations, points (“network element”)

Keeping the solutions widely used in DATEX

Allow for multiple referencing systems for each real-world entity (notion of “location container”)

Location referencing in DATEX II: overall package



The basic solution: ALERT-C

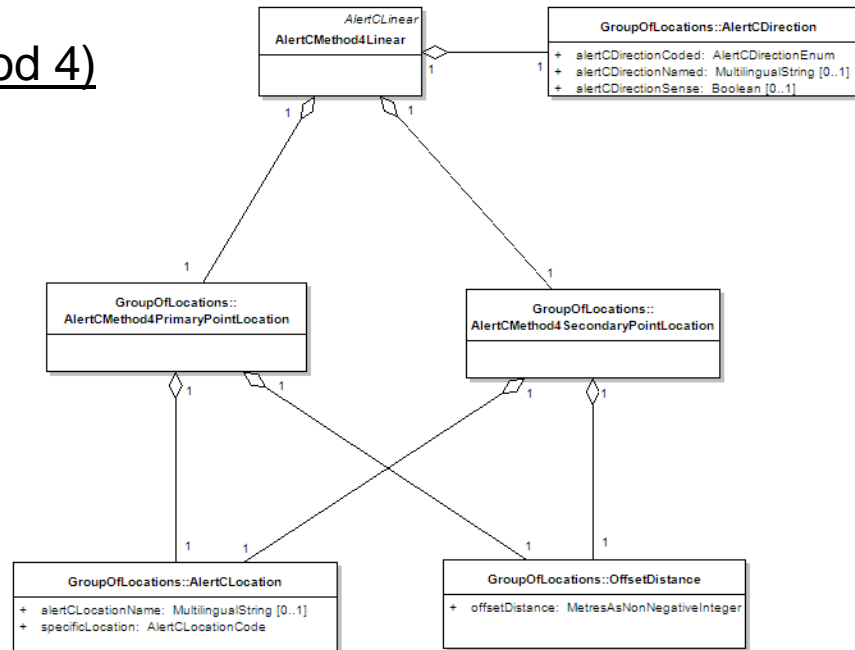
Based on EN ISO 14819-3:2004

Possible use of areas, points, linear locations by code and defined by two points (methods 2 & 4)

Possibility to add distances between the actual point and the ALERT-C point (method 4)

The solution recommended for international exchanges

Case of linear (method 4)



A dynamic solution: TPEG-Loc



Based on CEN/ISO TS 18234-6:2006

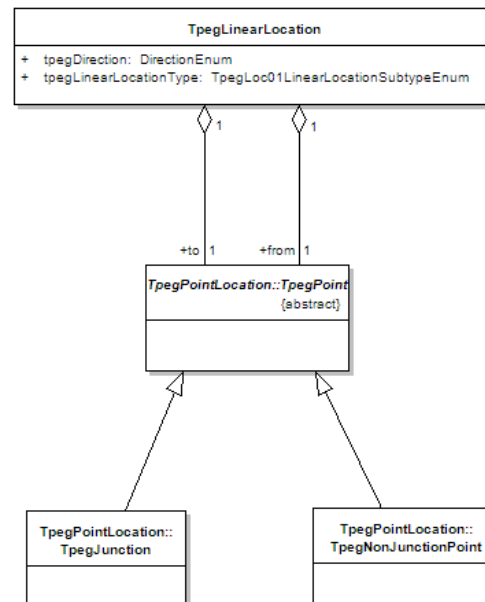
Solution for an on-the-fly referencing method

Possible use for areas, points, linear locations

Case of junction points, ILOC points and framed points

Can be the most suitable for urban areas and parts of network not covered by ALERT-C locations

Case of linear



Another new solution: linear referencing

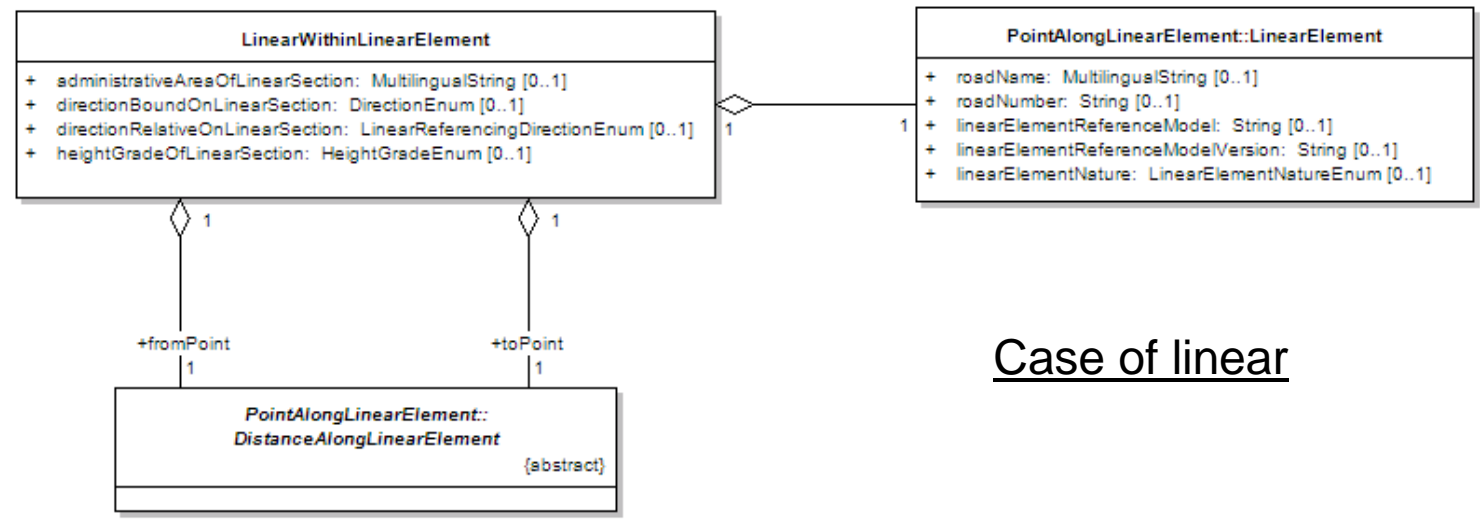
Based on future EN ISO 19148

Possible use for points and linear sections

Allow for absolute and relative referencing (chainage, reference points, cross-section,...)

Need an underlying linear element predefined or defined by points (referent)

Widely used by road operators

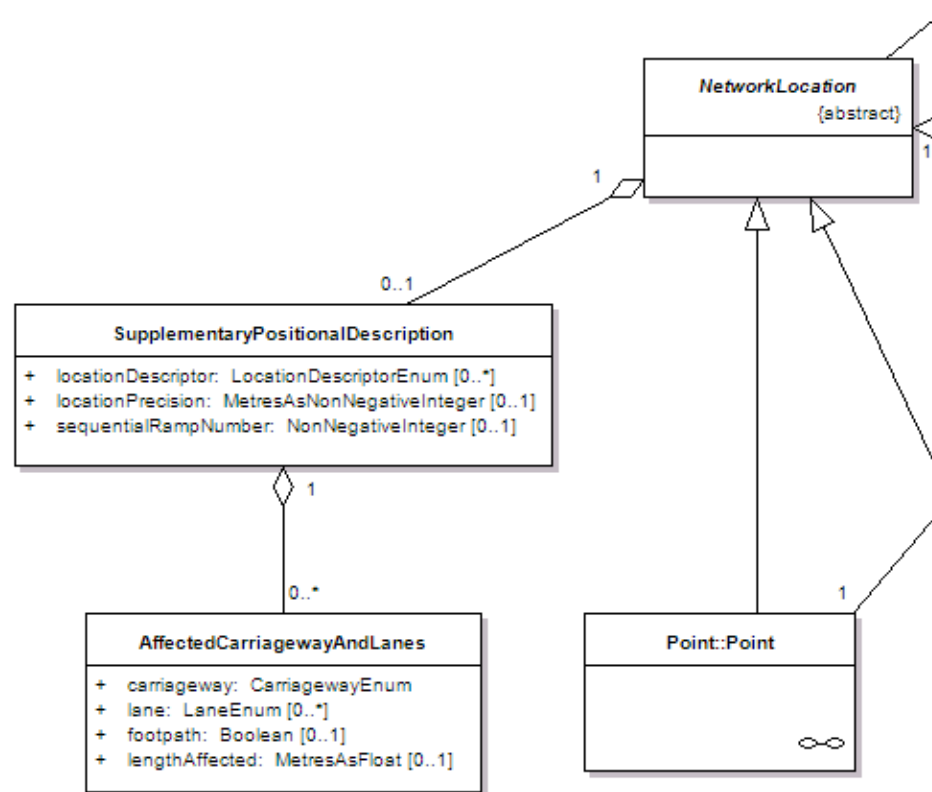


Case of linear

The transversal dimension

Defines the relevant carriageways and lanes:

- Identifies the corresponding lanes for each carriageway
- Provides qualitative information on location (e.g. “on bridge”, “at toll plaza”)
- Provides information on ramp number

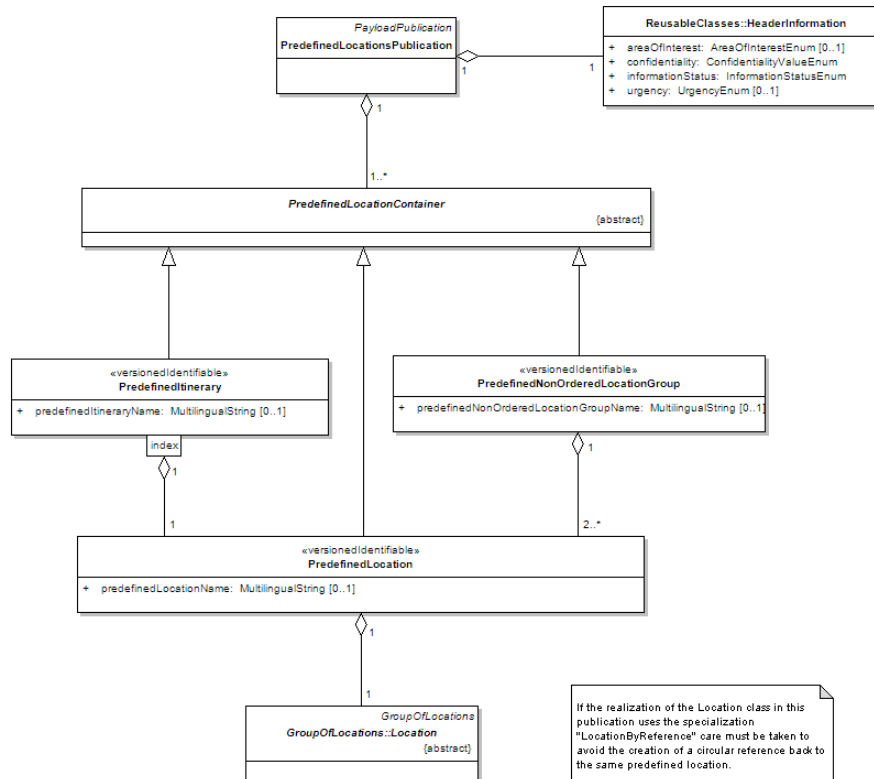


To go farther: predefined locations

Practical way to have a more compact location element (defined once, used several times through a reference)

Possible to predefine itineraries, non ordered groups of locations, single locations

Specific ad-hoc publication (PredefinedLocationsPublication)

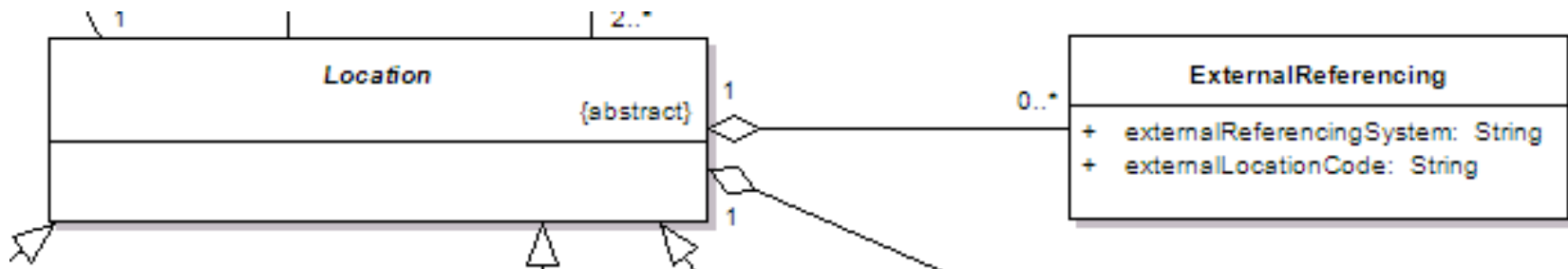


To go farther: extensions

The extension mechanism allows defining new proprietary or specific systems through references

Defined with an ad-hoc class (“ExternalReferencing”):

- E.g. to add a binary AGORA-C reference
- Or to add a link/node reference ...



Location referencing in DATEX II:

- Defined in the future CEN TS xxxxx-2
- Draft prepared and circulated for comment:
 - First circulation in April 2009
 - Second circulation expected in April 2010
- TC approval expected by the end of 2010
- Transformation in a full EN: can be expected around 2013-2014

Wide range of referencing methods that can be combined to obtain clear-cut and tailor-made referencing

Possibility to add another location system in the future (extension mechanism) and thus to adopt future standards

Mechanism of predefining locations allowing a very compact definition and a very compact data transmission

In the future: to allow for the needs of cooperative systems