DATEX II profile for DSRC Protected zones

ECo-AT

Version 00-01-00

A.1 Overview

This profile describes the message content for the DSRC Protected zones (protected zones) use case as described by the project ECo-AT. The profile uses "PredefinedLocationsPublications", and also uses level b extensions, which are also described in this document. All the extension components are colored in yellow, and the enumeration components are colored in blue. Location referencing is done using "TpegGeometricArea".

A.2 Data Dictionary for "Protected zones"

A.2.1 "Exchange" package

A.2.1.1 "Exchange" package classes

Class name	Designation	Definition	Stereotype	Abstract
Exchange	Exchange	Details associated with the management of the exchange between the supplier and the client.		no
InternationalIdentifier	International identifier	An identifier/name whose range is specific to the particular country.		no

Table 1— Classes of the "Exchange" package

A.2.1.2 "Exchange" package association roles

Class name	Role name	Designation	Definition	Multiplicity	Target
Exchange	supplierIdentification	Supplier identification	An identifier/name whose range is specific to the particular country.	1..1	InternationalIdentifier

Table 2— Associations of the "Exchange" package

A.2.1.3 "Exchange" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
Exchange	clientIdentification	Client identification	In a data exchange process, an identifier of the organisation or group of organisations which receives information from the DATEX II supplier system.	0..1	String

A.2.2 "D2LogicalModel" package

A.2.2.1 "D2LogicalModel" package classes

Class name	Designation	Definition	Stereotype	Abstract
Exchange	Exchange	Details associated with the management of the exchange between the supplier and the client.		no
D2LogicalModel	D2 logical model	The DATEX II logical model comprising exchange, content payload and management sub-models.		no
PayloadPublication	Payload publication	A payload publication of traffic related information or associated management information created at a specific point in time that can be exchanged via a DATEX II interface.		yes

Table 4— Classes of the "D2LogicalModel" package

A.2.2.2 " D2LogicalModel" package association roles

There are no (or not used) association roles in the "D2LogicalModel" package

A.2.2.3 " D2LogicalModel" package attributes

There are no (or not used) package attributes in the "D2LogicalModel" package

A.2.3 "GroupOfLocations " package

A.2.3.1 "GroupOfLocations" package classes

Class name	Designation	Definition	Stereotype	Abstract
GroupOfLocations	Group of locations	One or more physically separate locations. Multiple locations may be related, as in an itinerary (or route), or may be unrelated. It is not for identifying the same physical location using different Location objects for different referencing systems.		yes
Location	Location	The specification of a location either on a network (as a point or a linear location) or as an area. This may be provided in one or more referencing systems.		yes

Class name	Designation	Definition	Stereotype	Abstract
Area	Area	A geographic or geometric defined area which may be qualified by height information to provide additional geospatial discrimination (e.g. for snow in an area but only above a certain altitude).		no
TpegAreaLocation	Tpeg area location	A geographic or geometric area defined by a TPEG-Loc structure which may include height information for additional geospatial discrimination.		yes
TpegGeometricArea	Tpeg geometric area	A geometric area defined by a centre point and a radius.		no

Table 5— Classes of the "GroupOfLocations" package

A.2.3.2   "GroupOfLocations" package association roles

Class name	Role name	Designation	Definition	Multiplicity	Target
TpegGeometricArea	centrePoint	Centre point	Centre point of a circular geometric area.	1..1	PointCoordinates

Table 6— Associations of the "GroupOfLocations" package

A.2.3.3   "GroupOfLocations" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
PointCoordinates	latitude	Latitude	Latitude in decimal degrees using the European Terrestrial Reference System 1989 (ETRS89).	1..1	Float
	longitude	Longitude	Longitude in decimal degrees using the European Terrestrial Reference System 1989 (ETRS89).	1..1	Float
TpegAreaLocation	tpegAreaLocationType	Tpeg area location type	The type of TPEG location.	1..1	TpegLoc01AreaLocationSubtypeEnum
TpegGeometricArea	radius	Radius	The radius of the geometric area identified.	1..1	MetresAsNonNegativeInteger

Table 7— Attributes of the "GroupOfLocations" package

A.2.4 "PredefinedLocationsPublication" package

A.2.4.1 "PredefinedLocationsPublication" package classes

Class name	Designation	Definition	Stereotype	Abstract
DsrcProtectedZoneExtension	Dsrc protected zone extension	A level b extension for providing optional data elements for a protected zone.		no
ExtendedPredefinedLocation	Extended predefined location	Extension for adding additional details for a PredefinedLocation		no
PredefinedLocation	Predefined location	An identifiable versioned instance of a single predefined location.	VersionIdentifiable	no
PredefinedLocationContainer	Predefined location container	A publication containing one or more groups of predefined locations organised either as litineraries, non ordered groups or as individual locations.		yes
PredefinedLocationsPublication	Predefined locations publication	A publication containing one or more groups of predefined locations organised either as litineraries, non ordered groups or as individual locations.		no
Validity	Validity	Specification of validity, either explicitly or by a validity time period specification which may be discontinuous.		no

Table 8— Classes of the "PredefinedLocationsPublication" package

A.2.4.2 "PredefinedLocationsPublication" package association roles

Class name	Role name	Designation	Definition	Multiplicity	Target
DsrcProtectedZoneExtension	protectedZoneValidity	Protected zone validity	Validity of a protected zone.	0..1	Validity
Validity	validityTimeSpecification	Validity time specification	A specification of periods of validity defined by overall bounding start and end times and the possible intersection of valid periods with exception periods (exception periods overriding valid periods).	1..1	OverallPeriod

Table 9— Associations of the "PredefinedLocationsPublication" package

A.2.4.3 "PredefinedLocationsPublication" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type

Class name	Attribute name	Designation	Definition	Multiplicity	Type
DsrcProtectedZoneExtension	protectedZoneType	Protected zone type	Type of protected zone.	1..1	ProtectedZoneTypeEnum
OverallPeriod	overallStartTime	Overall start time	Start of bounding period of validity defined by date and time.	1..1	DateTime
	overallEndTime	Overall end time	End of bounding period of validity defined by date and time.	0..1	DateTime
PredefinedLocation	predefinedLocationName	Predefined location name	A name assigned to the predefined location (e.g. extracted out of the network operator's gazetteer).	0..1	MultilingualString
Validity	validityStatus	Validity status	Specification of validity, either explicitly overriding the validity time specification or confirming it.	1..1	ValidityStatusEnum

Table 10— Attributes of the "PredefinedLocationsPublication" package

A.3 Data Dictionary of <<enumerations>> for "Protected zones Profile"

This clause contains the definitions of all enumerations which are used in the "Protected zones Profile".

A.3.1 The <<enumeration>> "ConfidentialityValueEnum"

Values of confidentiality.

Enumerated value name	Designation	Definition
internalUse	Internal use	For internal use only of the recipient organisation.
noRestriction	No restriction	No restriction on usage.
restrictedToAuthorities	Restricted to authorities	Restricted for use only by authorities.
restrictedToAuthoritiesAndTrafficOperators	Restricted to authorities	Restricted for use only by authorities and traffic operators.
restrictedToAuthoritiesTrafficOperatorsAndPublishers	Restricted to authorities traffic operators and publishers	Restricted for use only by authorities, traffic operators and publishers (service providers).
restrictedToAuthoritiesTrafficOperatorsAndVms	Restricted to authorities traffic operators and Vms	Restricted for use only by authorities, traffic operators, publishers (service providers) and variable message signs.

Table 11— Values contained in the enumeration "ConfidentialityValueEnum"

A.3.2 The <<enumeration>> "CountryEnum"

List of countries.

Enumerated value name	Designation	Definition
at	at	Austria
de	de	Germany

Table 12— Values contained in the enumeration "CountryEnum"

A.3.3 The <<enumeration>> "InformationStatusEnum"

Status of the related information (i.e. real, test or exercise).

Enumerated value name	Designation	Definition
real	Real	The information is real. It is not a test or exercise.
securityExercise	Security exercise	The information is part of an exercise which is for testing security.
technicalExercise	Technical exercise	The information is part of an exercise which includes tests of associated technical subsystems.
test	Test	The information is part of a test for checking the exchange of this type of information.

Table 13— Values contained in the enumeration "InformationStatusEnum"

A.3.4 The <<enumeration>> "ProtectedZoneTypeEnum"

Types of protected zones.

Enumerated value name	Designation	Definition
cenDsrcTolling	Cen dsrc tolling	CEN_DSRC mounted on gantry

Table 14— Values contained in the enumeration "ProtectedZoneTypeEnum"

A.3.5 The <<enumeration>> "TpegLoc01AreaLocationSubtypeEnum"

Types of area.

Enumerated value name	Designation	Definition
largeArea	Large area	A geographic or geometric large area.
other	Other	Other than as defined in this enumeration.

Table 15— Values contained in the enumeration "TpegLoc01AreaLocationSubtypeEnum"

A.3.6 The <<enumeration>> "ValidityStatusEnum"

Values of validity status that can be assigned to a described event, action or item.

Enumerated value name	Designation	Definition
active	Active	The described event, action or item is currently active regardless of the definition of the validity time specification.
definedByValidityTimeSpec	Defined by validity time spec	The validity status of the described event, action or item is in accordance with the definition of the validity time specification.
suspended	Suspended	The described event, action or item is currently suspended, that is inactive, regardless of the definition of the validity time specification.

Table 16— Values contained in the enumeration "ValidityStatusEnum"

A.4 Alphabetical list of attributes

Attribute name	Class name	Designation	Definition	Multiplicity	Type
clientIdentification	Exchange	Client identification	In a data exchange process, an identifier of the organisation or group of organisations which receives information from the DATEX II supplier system.	0..1	String
country	InternationalIdentifier	Country	ISO 3166-1 two character country code.	1..1	CountryEnum
confidentiality	HeaderInformation	Confidentiality	The extent to which the related information may be circulated, according to the recipient type. Recipients must comply with this confidentiality statement.	1..1	ConfidentialityValueEnum
informationStatus	HeaderInformation	Information status	The status of the related information (real, test, exercise ....).	1..1	InformationStatusEnum
lang	PayloadPublication	Language	The default language used throughout the payload publication.	1..1	Language
latitude	PointCoordinates	Latitude	Latitude in decimal degrees using the European Terrestrial Reference System 1989 (ETRS89).	1..1	Float

longitude	PointCoordinates	Longitude	Longitude in decimal degrees using the European Terrestrial Reference System 1989 (ETRS89).	1..1	Float
nationalIdentifier	InternationalIdentifier	National identifier	Identifier or name unique within the specified country.	1..1	String
overallEndTime	OverallPeriod	Overall end time	End of bounding period of validity defined by date and time.	0..1	DateTime
overallStartTime	OverallPeriod	Overall start time	Start of bounding period of validity defined by date and time.	1..1	DateTime
publicationTime	PayloadPublication	Publication time	Date/time at which the payload publication was created.	1..1	DateTime
protectedZoneType	DsrcProtectedZoneExtension	Protected zone type	Type of protected zone.	1..1	ProtectedZoneTypeEnum
sourceCountry	Source	Source country	ISO 3166-1 two character country code of the source of the information.	0..1	CountryEnum
sourceIdentification	Source	Source identification	Identifier of the organisation or the traffic equipment which has produced the information relating to this version of the information.	0..1	String
sourceName	Source	Source name	The name of the organisation which has produced the information relating to this version of the information.	0..1	MultilingualString
sourceType	Source	Source type	Information about the technology used for measuring the data or the method used for obtaining qualitative descriptions relating to this version of the information.	0..1	SourceTypeEnum
tpegAreaLocationType	TpegAreaLocation	Tpeg area location type	The type of TPEG location.	1..1	TpegLoc01AreaLocationSubtypeEnum
radius	TpegGeometricArea	Radius	The radius of the geometric area identified.	1..1	MetresAsNonNegativeInteger
validityStatus	Validity	Validity status	Specification of validity, either explicitly overriding the validity time specification or confirming it.	1..1	ValidityStatusEnum

Table 17- Alphabetical list of attributes

A.5 Alphabetical list of roles

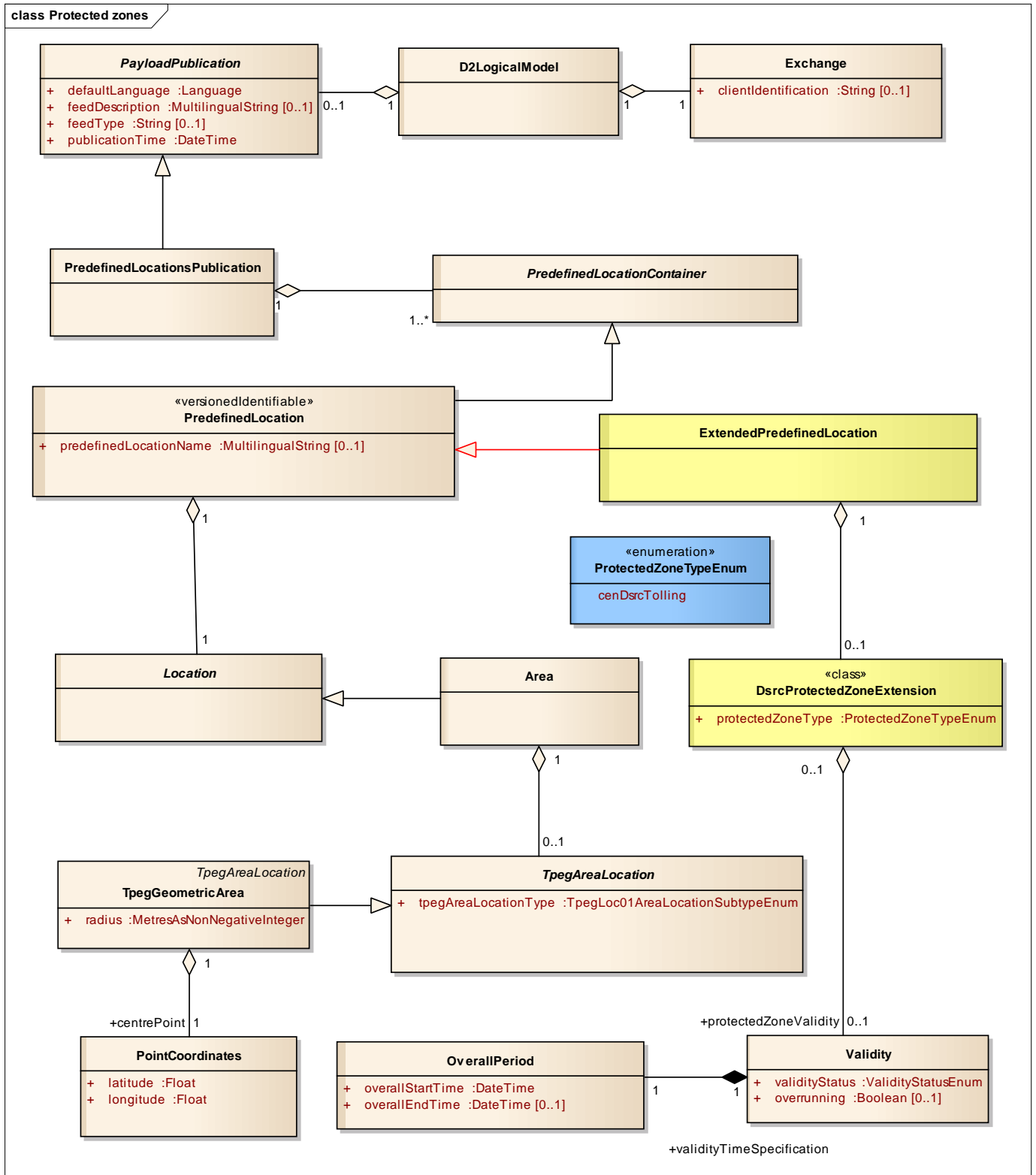| Role name	Class name	Designation	Definition	Multiplicity	Target
centrePoint	TpegGeometricArea	Centre point	Centre point of a circular geometric area.	1..1	PointCoordinates
protectedZoneValidity	DsrcProtectedZoneExtension	Protected zone validity	Validity of a protected zone.	0..1	Validity
validityTimeSpecification	validityTimeSpecification	Validity time specification	A specification of periods of validity defined by overall bounding start and end times and the possible intersection of valid periods with exception periods (exception periods overriding valid periods).	1..1	OverallPeriod
publicationCreator	PayloadPublication	Publication creator	An identifier/name whose range is specific to the particular country.	1..1	InternationalIdentifier
supplierIdentification	Exchange	Supplier identification	An identifier/name whose range is specific to the particular country.	1..1	InternationalIdentifier

Table 18- Alphabetical list of roles

A.6 Figures

Figure 1: Protected zones model