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Intelligent transport systems - DATEX II data exchange specifications for traffic management and information - Part 4: Variable Message Sign (VMS) Publications

Systèmes de transport intelligents - Spécifications Datex II d'échange de données pour la gestion du trafic et l'information routière - Partie 4 : Publication de VMS

Intelligente Transportsysteme - DATEX II Datenaustausch Spezifikationen für Verkehrsmanagement und Informationen - Teil 4: Variable Verkehrszeichen (VMS) Veröffentlichungen

This Technical Specification (CEN/TS) was approved by CEN on 27 January 2014 for provisional application.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (CEN/TS 16157-4:2014) has been prepared by Technical Committee CEN/TC 278 “Intelligent transport systems”, the secretariat of which is held by NEN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

CEN/TS 16157-4:2014 consists of the following parts, under the general title “Intelligent transport systems — DATEX II data exchange specifications for traffic management and information”:

— Part 1: Context and framework

— Part 2: Location referencing

— Part 3: Situation publication

— Part 4: VMS publication

— Part 5: Measured and Elaborated Data Publications

The following parts are under preparation:

— Traffic view publication

— Communication specifications

Other parts may be developed in the future.

As a user of the standard, attention is drawn to the resources of www.datex2.eu < http://www.datex2.eu/>. This website contains related software tools and software resources that aid the implementation of the CEN/TS 16157 series DATEX II.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This Technical Specification defines a common set of data exchange specifications to support the vision of a seamless interoperable exchange of traffic and travel information across boundaries, including national, urban, interurban, road administrations, infrastructure providers and service providers. Standardization in this context is a vital constituent to ensure that interoperability, reduction of risk, reduction of the cost base and promotion of open marketplace objectives are achieved that will lead to many social, economic and community benefits as a result of more informed travellers, network managers and transport operators.

Delivering European Transport Policy in line with the White Paper issued by the European Commission requires co-ordination of traffic management and the development of seamless pan European services. With the aim to support sustainable mobility in Europe, the European Commission has been supporting the development of information exchange mainly between the actors of the road traffic management domain for a number of years. In the road sector, DATEX II has been long in fruition, with the European Commission being fundamental to its development through an initial contract and subsequent co-funding through the Euro-Regional projects. With this standardization of DATEX II there is a real basis for common exchange between the actors of the traffic and travel information sector.

This Technical Specification includes the framework and context for exchanges, the modelling approach, data content, data structure and relationships and communications specification.

This Technical Specification supports a methodology that is extensible.

The fourth part of this Technical Specification deals with the publication of variable message sign (VMS) information. It specifies the structures and definitions of information that may be exchanged to convey details of the messages displayed on variable message signs, and the current configuration/characteristics and status of the variable message signs that are currently deployed on the road network.

The European Committee for Standardization (CEN) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning procedures, methods and/or formats given in this document.

CEN takes no position concerning the evidence, validity and scope of patent rights.

1 Scope

This Technical Specification (CEN/TS 16157-4:2014) specifies and defines component facets supporting the exchange and shared use of data and information in the field of traffic and travel.

The component facets include the framework and context for exchanges, the modelling approach, the data content, the data structure and relationships and the communications specification.

This Technical Specification is applicable to:

— Traffic and travel information which is of relevance to road networks (non urban and urban);

— Public transport information that is of direct relevance to the use of a road network (e.g. road link via train or ferry service).

This Technical Specification establishes specifications for data exchange between any two instances of the following actors:

— Traffic Information Centres (TICs);

— Traffic Control Centres (TCCs);

— Service Providers (SPs).

Use of this Technical Specification may be applicable for use by other actors.

This Technical Specification includes the following types of information content:

— Road traffic event information – planned and unplanned occurrences both on the road network and in the surrounding environment;

— Operator initiated actions;

— Road traffic measurement data, status data and travel time data;

— Travel information relevant to road users, including weather and environmental information;

— Road traffic management information and instructions relating to use of the road network.

This part of the CEN/TS 16157 series specifies the informational structures, relationships, roles, attributes and associated data types required for publishing variable message sign information within the Datex II framework. This is specified in two parts, a DATEX II VMS Publication sub-model and a VMS Table Publication sub-model.

The VMS Publication supports the exchange of the graphic and textual content of one or several VMS plus any status information on device configuration that aid the comprehension of the informational content. This content is potentially subject to rapid change. The VMS Table Publication supports the occasional exchange of tables containing generally static reference information about deployed VMS which enable subsequent efficient references to be made to pre-defined static information relating to those VMS. These publications are not intended to support the control or configuration of VMS equipment. Each is part of the DATEX II platform independent model.

1.1 Conformance

The platform independent sub-models defined by this Part specify a DATEX II VMS Publication and a DATEX II VMS Table Publication except for those elements that relate to location information which are specified in

CEN/TS 16157-2. The DATEX II platform independent data model of which these two publication sub-models are a part, corresponds to the Level A model as defined in CEN/TS 16157-1.

Conformance with this Part shall require platform independent models from which platform specific models are generated to comply with the UML modelling rules defined in CEN/TS 16157-1 and with the following requirements of the sub-models which are expressed in this Part:

— comply with all stipulated minimum and maximum multiplicity requirements for UML elements and relationships;

— comply with all definitions, types and ordering;

— employ optional elements as specified;

— comply with all expressed constraints.

It should be noted that conformance of a publication service with all the structural requirements stated above does not necessarily ensure that the informational content of that service will be semantically comprehensible.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CEN/TS 16157-1, *Intelligent transport systems - DATEX II data exchange specifications for traffic management and information - Part 1: Context and framework*

CEN/TS 16157-2, *Intelligent transport systems - DATEX II data exchange specifications for traffic management and information - Part 2: Location referencing*

CEN/TS 16157-3, *Intelligent transport systems - DATEX II data exchange specifications for traffic management and information - Part 3: Situation Publication*

ISO 639-2:1998, *Codes for the representation of names of languages — Part 2: Alpha-3 code*

ISO/IEC 19501:2005, *Information technology — Open Distributed Processing — Unified Modeling Language (UML) Version 1.4.2*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in CEN/TS 16157-1 and in the following list shall apply.

4.1
legend
a sequence of text characters and/or symbols that is displayed on a variable message sign

4.2
location
identifiable geographic place

[EN ISO 19112:2005]

Note 1 to entry: It is either on a road network (as a point or a linear location) or as an area. This may be provided in one or more referencing systems.