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Intelligent transport systems - Traffic and Travel Information (TTI) via transport protocol experts group, generation 1 (TPEG1) binary data format - Part 11: Location Referencing Container (TPEG1-LRC) (ISO/TS 18234-11:2013)

Systèmes intelligents de transport - Informations sur le trafic et le tourisme via les données de format binaire du groupe d'experts du protocole de transport, génération 1 (TPEG1) - Partie 11: Conteneur de référencement d'emplacement (ISO/TS 18234-11:2013)

Intelligente Transportsysteme - Reise- und Verkehrsinformation (TTI) über Datenströme der Transportprotokoll Expertengruppe, Generation 1 (TPEG1) binäres Datenformat - Teil 11: Lokalisierungsreferenzcontainer (TPEG1-LRC) (ISO/TS 18234-11:2013)

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Foreword

This document (CEN ISO/TS 18234-11:2013) has been prepared by Technical Committee CEN/TC 278 “Road transport and traffic telematics", the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 204 "Intelligent transport systems".

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Introduction

TPEG technology uses a byte-oriented data stream format, which may be carried on almost any digital bearer with an appropriate adaptation layer. TPEG messages are delivered from service providers to end-users and used to transfer information from the database of a service provider to an end-user's equipment.

The brief history of TPEG technology development dates back to the European Broadcasting Union (EBU) Broadcast Management Committee establishing the B/TPEG project group in autumn 1997 with the mandate to develop, as soon as possible, a new protocol for broadcasting traffic and travel-related information in the multimedia environment. TPEG technology, its applications and service features are designed to enable travel-related messages to be coded, decoded, filtered and understood by humans (visually and/or audibly in the user's language) and by agent systems.

One year later in December 1998, the B/TPEG group produced its first EBU specifications. Two documents were released. Part 2 (TPEG1-SSF, which became ISO/TS 18234-2) described the Syntax, Semantics and Framing structure, which is used for all TPEG applications. Part 4 (TPEG1-RTM, which became ISO/TS 18234-4 described the first application, for Road Traffic Messages.

Subsequently, CEN/TC 278/WG 4, in conjunction with ISO/TC 204/WG 10, established a project group comprising the members of B/TPEG and they continued the work concurrently since March 1999. Since then two further parts were developed to make the initial complete set of four parts, enabling the implementation of a consistent service. Part 3 (TPEG1-SNI, ISO/TS 18234-3) describes the Service and Network Information Application, which should be used by all service implementations to ensure appropriate referencing from one service source to another. Part 1 (TPEG1-INV, ISO/TS 18234-1), completes the series, by describing the other parts and their relationship; it also contains the application IDs used within the other parts. Additionally, Part 5, the Public Transport Information Application (TPEG1-PTI, ISO/TS 18234-5) and TPEG1-LRC, ISO/TS 18234-6), were developed.

This Technical Specification adds a powerful mechanism for the ISO/TS 18234 series, allowing detailed road event information to be encoded and transmitted to the user; it was developed specifically to satisfy the need for a number of location referencing methods for Navigation Systems for worldwide markets. This Technical Specification includes new datatypes as specified in Annex A.

TPEG applications are now developed using UML modelling and a software tool is used to automatically select content which then populates this Technical Specification. Diagrammatic extracts from the model are used to show the capability of the binary coding in place of lengthy text descriptions; the diagrams do not necessarily include all relevant content possible.

During the development of the TPEG technology a number of versions have been documented and various trials implemented using various versions of the specifications. At the time of the publication of this Technical Specification, the original parts are fully inter-workable and no specific dependencies exist. Now, however, at least for TPEG1-TEC, profiles are used to define which Applications should be used together. For example TPEG1-TEC is used only with TPEG1-LRC containing DLR1 and never with TPEG1-LOC.

Intelligent transport systems — Traffic and Travel Information (TTI) via transport protocol experts group, generation 1 (TPEG1) binary data format —

Part 11: Location Referencing Container (TPEG1-LRC)

1 Scope

This Technical Specification establishes the method of signalling the specific location referencing used by all TPEG1 applications that require detailed location information to be delivered to client devices such as TPEG1-RTM, TPEG1-PTI, TPEG1-TEC or TPEG1-PKI. The TPEG1-Location Referencing Container (TPEG1-LRC) is described, as well as how it is used to signal which specific location referencing method is in use for a particular TPEG Message. It is able to handle Location Referencing methods that are external to ISO/TS 18234 (all parts) and the internal location referencing method (TPEG1-LOC) defined in ISO/TS 18234-6.

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.

ISO 639-1:2002, *Codes for the representation of names of languages — Part 1: Alpha-2 code*

ISO 3166-1:2006, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes*

ISO 4217:2008, *Codes for the representation of currencies and funds*

ISO 17572-2:2008, *Intelligent transport systems (ITS) — Location referencing for geographic databases — Part 2: Pre-coded location references (pre-coded profile)*

ISO 17572-3:2008, *Intelligent transport systems (ITS) — Location referencing for geographic databases — Part 3: Dynamic location references (dynamic profile)*

ISO/TS 18234-2:2006, *Traffic and Travel Information (TTI) — TTI via Transport Protocol Expert Group (TPEG) data-streams — Part 2: Syntax, Semantics and Framing Structure (SSF)*

ISO/TS 18234-3:2006, *Traffic and Travel Information (TTI) — TTI via Transport Protocol Expert Group (TPEG) data-streams — Part 3: Service and Network Information (SNI) application*

ISO/TS 18234-6:2006, *Traffic and Travel Information (TTI) — TTI via Transport Protocol Expert Group (TPEG) data-streams — Part 6: Location referencing applications*

IEC 60559:1989, *Binary floating-point arithmetic for microprocessor systems*