
Prometne in potovalne informacije (TTI) – TTI preko toka podatkov ekspertne skupine za prometne in potovalne protokole (TPEG) – 2. del: Sintaksa, semantika in struktura okvirov (SSF) (ISO/TS 18234-2:2006)

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

Reise- und Verkehrsinformation (TTI) - TTI über Datenströme der Transportprotokoll Expertengruppe (TPEG) - Teil 2: Syntax, Semantik und Rahmenstruktur (SSF) (ISO/TS 18234-2:2006)

[SIST-TS CEN ISO/TS 18234-2:2006](https://standards.iteh.ai/SIST-TS-CEN-ISO-TS-18234-2-2006)

Informations sur le trafic et le tourisme (TTI) - Messages TTI via les flux de données du groupe d'experts du protocole de transport (TPEG) - Partie 2: Structure de syntaxe, de sémantique et de cadrage (SSF) (ISO/TS 18234-2:2006)

Ta slovenski standard je istoveten z: CEN/TS ISO 18234-2:2006

ICS:

03.220.01

35.240.60

SIST-TS CEN ISO/TS 18234-2:2006 en

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

SIST-TS CEN ISO/TS 18234-2:2006

<https://standards.iteh.ai/catalog/standards/sist/be2a637f-5432-4d57-9e93-74798a7a0b4b/sist-ts-cen-iso-ts-18234-2-2006>

English Version

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

Informations sur le trafic et le tourisme (TTI) - Messages
TTI via les flux de données du groupe d'experts du
protocole de transport (TPEG) - Partie 2: Structure de
syntaxe, de sémantique et de cadrage (SSF) (ISO/TS
18234-2:2006)

Reise- und Verkehrsinformation (TTI) - TTI über
Datenströme der Transportprotokoll Expertengruppe
(TPEG) - Teil 2: Syntax, Semantik und Rahmenstruktur
(SSF) (ISO/TS 18234-1:2006)

This Technical Specification (CEN/TS) was approved by CEN on 28 September 2004 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (CEN ISO/TS 18234-2:2006) 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 "Transport information and control systems".

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

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST-TS CEN ISO/TS 18234-2:2006

<https://standards.iteh.ai/catalog/standards/sist/be2a637f-5432-4d57-9e93-74798a7a0b4b/sist-ts-cen-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)**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

*Informations sur le trafic et le tourisme (TTI) — Messages TTI via les
flux de données du groupe d'experts du protocole de transport*

(TPEG) — ISO/TS 18234-2:2006

<https://standards.iteh.ai/catalog/standards/sist/be2a637f-5433-4d57-9e93-74798a7a0b4b/sist-ts-cen-iso-ts-18234-2-2006>

Partie 2: Structure de syntaxe, de sémantique et de cadrage (SSF)



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST-TS CEN ISO/TS 18234-2:2006](https://standards.iteh.ai/catalog/standards/sist/be2a637f-5432-4d57-9e93-74798a7a0b4b/sist-ts-cen-iso-ts-18234-2-2006)

<https://standards.iteh.ai/catalog/standards/sist/be2a637f-5432-4d57-9e93-74798a7a0b4b/sist-ts-cen-iso-ts-18234-2-2006>

© ISO 2006

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Symbols and abbreviations	2
4 Design principles	3
4.1 TPEG transmission.....	4
4.2 TPEG layer model	5
5 Conventions and symbols	7
5.1 Conventions	7
5.2 Symbols	7
6 Representation of syntax	8
6.1 General.....	8
6.2 Data type notation.....	8
6.3 Application independent elements	9
6.4 Application dependent elements	13
6.5 Application design principles	14
7 TPEG description.....	15
7.1 Hierarchy (frame structure).....	15
7.2 Transport level	18
7.3 Service level	19
7.4 Service component multiplex level.....	21
7.5 Service component level.....	21
Annex A (normative) Character tables	22
Annex B (normative) Method for coding quantities of objects	23
Annex C (normative) CRC calculation	25
Annex D (normative) Time calculation	27
Annex E (informative) A description of the TPEG byte-stream using C-type notation.....	30

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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

ISO/TS 18234-2 was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

ISO/TS 18234 consists of the following parts, under the general title *Traffic and Travel Information (TTI) — TTI via Transport Protocol Expert Group (TPEG) data-streams*:

- *Part 1: Introduction, numbering and versions*
- *Part 2: Syntax, Semantics and Framing Structure (SSF)*
- *Part 3: Service and Network Information (SNI) application*
- *Part 4: Road Traffic Message (RTM) application*
- *Part 5: Public Transport Information (PTI) application*
- *Part 6: Location referencing applications*

Introduction

TPEG technology uses a byte-oriented 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 are used to transfer application data from the database of a service provider to a user's equipment.

This document describes the Service and Network Information Application, which provides a means of informing end-users about all possible services and their content which are considered relevant by a service provider to either provide continuity of his services or inform the end-user about other related services. As stated in the design criteria, TPEG is a bearer independent system. Therefore some rules are established for the relation of information contents of the same service on different bearers. Also the mechanisms for following a certain service on one single bearer have to be defined. For the receiver it is essential to find an adjacent or similar service if it leaves the current reception area. Nonetheless, basic information describing the service itself is necessary. For the ease of the user, e.g. the service name, the service provider name, the operating time and many other hints are delivered by the TPEG-SNI application.

Also, general models for the hand-over and the referencing of services are developed and shown in detail. It is important to note that this Part 2 of CEN ISO/TS 18234 (TPEG-SSF) is closely related to Part 3 (TPEG-SNI) and so they must be used together, being dependent upon each other.

The Broadcast Management Committee of the European Broadcasting Union (EBU) established 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. The 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 public specifications. Two documents were released. Part 2 (TPEG-SSF, CEN ISO/TS 18234-2, this document) described the Syntax, Semantics and Framing structure, which will be used for all TPEG applications. Part 4 (TPEG-RTM, CEN ISO/TS 18234-4) described the *first* application, for Road Traffic Messages.

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 have continued the work concurrently since March 1999. Since then two further parts have been developed to make the initial complete set of four parts, enabling the implementation of a consistent service. Part 3 (TPEG-SNI, CEN ISO/TS 18234-3) describes the Service and Network Information Application, which is likely to be used by all service implementations to ensure appropriate referencing from one service source to another. Part 1 (TPEG-INV, CEN ISO/TS 18234-1) completes the work, by describing the other parts and their relationships; it also contains the application IDs used within the other parts.

In April 2000, the B/TPEG group released revised Parts 1 to 4, all four parts having been reviewed and updated in the light of initial implementation results. Thus a consistent suite of specifications, ready for wide scale implementation, was submitted to the CEN/ISO commenting process.

In November 2001, after extensive response to the comments received and from many internally suggested improvements, all four parts were completed for the next stage: the Parallel Formal Vote in CEN and ISO. But a major step forward has been to develop the so-called TPEG-Loc location referencing method, which enables both map-based TPEG-decoders and non map-based ones to deliver either map-based location referencing or human readable information. Part 6 (TPEG-Loc, CEN ISO/TS 18234-6) is now a separate specification and is used in association with the other parts of CEN ISO/TS 18234 to provide comprehensive location referencing. Additionally Part 5, the Public Transport Information Application (TPEG-PTI, CEN ISO/TS 18234-5), has been developed and been through the commenting process.

This Technical Specification, CEN ISO/TS 18234-2, provides a full specification to the primitives used, framing, time calculation, numbers and to specific rules such as CRC calculation.

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, all parts are fully inter-workable and no specific dependencies exist. This Technical Specification has the technical version number TPEG-SSF_3.0/002.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST-TS CEN ISO/TS 18234-2:2006

<https://standards.iteh.ai/catalog/standards/sist/be2a637f-5432-4d57-9e93-74798a7a0b4b/sist-ts-cen-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)

1 Scope

This Technical Specification establishes the method of referencing used within a TPEG data-stream to allow a service provider to signal availability of the same service on another bearer channel or similar service data from another service.

TPEG is a byte-oriented 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 are used to transfer application data from the database of a service provider to a user's equipment.

The protocol is structured in a layered manner and employs a general purpose framing system which is adaptable and extensible, and which carries frames of variable length. This has been designed with the capability of explicit frame length identification at nearly all levels, giving greater flexibility and integrity, and permitting the modification of the protocol and the addition of new features without disturbing the operation of earlier client decoder models.

<https://standards.iteh.ai/catalog/standards/sist/be2a637f-5432-4d57-9e93-74798a7a0b4b/sist-ts-cen-iso-ts-18234-2-2006>

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/IEC 7498-1, *Information technology — Open Systems Interconnection — Basic Reference Model: The Basic Model*

ISO/IEC 8859-1, *Information technology — 8-bit single byte coded graphic character sets — Part 1: Latin alphabet No. 1*

ISO/IEC 8859-2, *Information technology — 8-bit single byte coded graphic character sets — Part 2: Latin alphabet No. 2*

ISO/IEC 8859-3, *Information technology — 8-bit single byte coded graphic character sets — Part 3: Latin aAlphabet No. 3*

ISO/IEC 8859-4, *Information technology — 8-bit single byte coded graphic character sets — Part 4: Latin alphabet No. 4*

ISO/IEC 8859-5, *Information technology — 8-bit single byte coded graphic character sets — Part 5: Latin/Cyrillic alphabet*

ISO/IEC 8859-6, *Information technology — 8-bit single byte coded graphic character sets — Part 6: Latin/Arabic alphabet*

ISO/IEC 8859-7, *Information technology — 8-bit single byte coded graphic character sets — Part 7: Latin/Greek alphabet*

ISO/IEC 8859-8, *Information technology — 8-bit single byte coded graphic character sets — Part 8: Latin/Hebrew alphabet*

ISO/IEC 8859-9, *Information technology — 8-bit single byte coded graphic character sets — Part 9: Latin alphabet No. 5*

ISO/IEC 8859-10, *Information technology — 8-bit single byte coded graphic character sets — Part 10: Latin alphabet No. 6*

ISO/IEC 8859-13, *Information technology — 8-bit single byte coded graphic character sets — Part 13: Latin alphabet No. 7*

ISO/IEC 8859-14, *Information technology — 8-bit single byte coded graphic character sets — Part 14: Latin alphabet No. 8 (Celtic)*

ISO/IEC 8859-15, *Information technology — 8-bit single byte coded graphic character sets — Part 15: Latin alphabet No. 9*

ISO/IEC 10646, *Information technology — Universal Multiple-Octet Coded Character Set (UCS)*

3 Symbols and abbreviations

For the purposes of this Technical Specification, the following abbreviations apply:

3.1

AID

Application Identification

[SIST-TS CEN ISO/TS 18234-2:2006](https://standards.iteh.ai/catalog/standards/sist/be2a637f-5432-4d57-9e93-74798a7a0b4b/sist-ts-cen-iso-ts-18234-2-2006)

<https://standards.iteh.ai/catalog/standards/sist/be2a637f-5432-4d57-9e93-74798a7a0b4b/sist-ts-cen-iso-ts-18234-2-2006>

3.2

BPN

Broadcast, Production and Networks (an EBU document publishing number system)

3.3

B/TPEG

Broadcast/TPEG (the EBU project group name for the specification drafting group)

3.4

CEN

Comité Européen de Normalisation

3.5

DAB

Digital Audio Broadcasting

3.6

DARC

Data Radio Channel - an FM sub-carrier system for data transmission

3.7

DVB

Digital Video Broadcasting

3.8

EBU

European Broadcasting Union

3.9**INV**

Introduction, Numbering and Versions (see CEN ISO/TS 18234-1)

3.10**IPR**

Intellectual Property Right(s)

3.11**ISO**

International Organization for Standardization

3.12**ITU-T**

International Telecommunication Union - Telecom

3.13**OSI**

Open Systems Interconnection

3.14**RTM**

Road Traffic Message application (see CEN ISO/TS 18234-4)

3.15**SNI**

Service and Network Information application (see CEN ISO/TS 18234-3)

3.16**SSF**

Syntax, Symantics and Framing Structure (this specification)

3.17**TPEG**

Transport Protocol Experts Group

3.18**TTI**

Traffic and Travel Information

3.19**UAV**

unassigned value

3.20**UTC**

Coordinated Universal Time

4 Design principles

The following principles have been assumed in the development of the TPEG protocol, structure and semantics:

- TPEG is unidirectional
- TPEG is byte-oriented, where a byte is represented by eight bits
- TPEG provides a protocol structure, which employs asynchronous framing