TECHNICAL SPECIFICATION

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Electronic fee collection — System architecture for vehicle related tolling —

Part 2: Vocabulary

Perception de télépéage – Architecture de systèmes pour le péage lié aux véhicules —
Partie 2: Vocabulaire

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

A list of all parts in the ISO 17573 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document is a part of the ISO 17573 series that defines the system architecture for vehicle-related tolling. Part 1 gives a reference model for the system architecture, whilst this document (Part 2) provides a collection of terms and definitions within the field of electronic fee collection (EFC) and road user charging that are used in the different documents published in ISO and CEN under the general title, *Electronic fee collection*.

This document is based on guidelines from the relevant ISO International Standards for terminologies, in particular: ISO 704 and ISO 1087-1. Experiences were also drawn from more general work done on terminology, in particular from the work on the Nordic ITS terminology[27].

This document is intended to be used as a reference by editors of documents in EFC and in related areas of standardization (such as Intelligent Transport Systems, ITS). It may also be used by the general public and the stakeholders in EFC as a vocabulary, fostering a harmonized language when describing EFC systems in specifications, reports and other texts.

As this document is intended to become the main source for EFC terms, any previous source references have intentionally been left out. However, source references are listed in the Bibliography.

It is foreseen that the terminology work on EFC terms will continue with addition of new terms, revision of existing terms and replacement/deletion of deprecated terms.

Electronic fee collection — System architecture for vehicle related tolling —

Part 2: Vocabulary

1 Scope

This document defines terms within the field of electronic fee collection (EFC).

This document defines:

— terms within the fields of electronic fee collection and road user charging;

— terms that are used in standards related to electronic fee collection;

— terms of a more general use that are used more specifically in standards related to electronic fee collection.

This document does not define:

— Terms related primarily to other fields that operate in conjunction with EFC, such as terms for intelligent transport systems (ITS), common payment systems, the financial sector, etc.

— Deprecated terms.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
absolute charging error
difference between the measured charge (*toll* [3.193]) value and the actual value as measured by a reference system where a positive error means that the measurement exceeds the actual value

3.2
acceptance testing
examination that a product, process or service is in conformity with the system specification

3.3
accepted charging error interval
interval of the *relative charging error* (3.154) that the *toll charger* (3.194) considers as acceptable, i.e. as correct charging

3.4
access credentials
AC-CR
trusted *attestation* (3.11) or secure module that establishes the claimed identity of an object or application

3.5
accountability
property that ensures that the actions of an entity can be traced uniquely to the entity

3.6
accreditation
third-party *attestation* (3.11) related to a *conformity assessment body* (3.46) conveying formal demonstration of its competence, consistent operation and *impartiality* (3.89) in performing specific conformity assessment activities

3.7
activist
especially active, vigorous advocate of a cause, especially a political cause

3.8
area charging
area pricing
charging based on road usage within a given area

3.9
asset
anything that has value to a stakeholder

3.10
assurance requirement
security requirements to assure confidence in the implementation of *functional requirements* (3.86)

3.11
attestation
issue of a statement, based on a decision that fulfilment of *specified requirements* (3.176) has been demonstrated

Note 1 to entry: The resulting statement, referred to in this document as a "statement of conformity", is intended to convey the assurance that the specified requirements have been fulfilled. Such an assurance does not, of itself, afford contractual or other legal guarantees.

3.12
attack
attempt to destroy, expose, alter, disable, steal or gain unauthorized access to or make unauthorized use of an *asset* (3.9)

3.13
attribute
addressable package of data consisting of a single *data element* (3.54) or structured sequences of data elements

3.14
audit
independent review and examination in order to ensure compliance with established *policy* (3.141) and operational procedures

3.15
authentication
security mechanism allowing *verification* (3.233) of the provided identity

3.16
authenticator
data, possibly encrypted, that is used for *authentication* (3.15)

3.17
authenticity
property that an entity is what it claims to be

3.18
automated number plate recognition
ANPR
technology to automatically read vehicle registration plates

Note 1 to entry: A vehicle registration plate typically contains the indicator or the code of the country that issued the vehicle registration plate.

Note 2 to entry: Optical character recognition techniques are typically part of the technology associated with automated number plate recognition.

3.19
autonomous EFC system
EFC system (3.69) which is able to obtain usage data using *on-board equipment* (3.126) independent from *roadside equipment (RSE)* (3.161)

3.20
availability
property of being accessible and useable upon demand by an authorized entity

3.21
average relative charging error
ratio between the sum of computed charges (measurement) associated to a set of vehicles during a certain period of time and the actual charge due (reference) minus 1

3.22
back end
part of a back-office system interfacing to one or more *front ends* (3.85)

3.23
base standard
approved International Standard, Technical Specification or ITU-T Recommendation

Note 1 to entry: This includes but is not limited to approved standard deliverables from ISO, ITU, CEN, CENELEC, ETSI and IEEE.

3.24
big-endian
format for transmission of binary data in which the most significant byte appears first

3.25
billing detail
information needed to determine or verify the amount due for the usage of a given service

3.26
black list
list of users for which the service provider denies contractual responsibility

3.27
central account
payment means (3.134), value or service rights stored in a central system

3.28
certificate revocation list
signed list indicating a set of certificates that are no longer considered valid by the certificate *issuer* (3.105)

3.29
certification
third-party *attestation* (3.11) related to *objects of conformity assessment* (3.124), with the exception of *conformity assessment bodies* (3.46)

Note 1 to entry: Certification is applicable to all objects of conformity assessment except for conformity assessment bodies themselves, to which *accreditation* (3.6) is applicable.

3.30
channel
information transfer path

3.31
charge object
geographic or road related object for the use of which a charge is applied

3.32
charge object detection
event marking the usage of a *charge object* (3.31)

3.33
charge object detector
functionality of the system responsible for detecting chargeable events associated with a *charge object* (3.31)

3.34
charge parameter change
event occurring within a tolling system, that is relevant for charge calculation, such as change of vehicle category, but not for the detection of a *charge object* (3.31) itself

3.35
charge report
information containing road usage and related information originated at the *front end* (3.85)

3.36
charging data
relevant data on the usage of a certain service

3.37
charging performance metrics
specific calculations used to describe the charging performance of a system

3.38
charging point
location where the *toll* (3.193) is charged

3.39
charging scheme
general description of a tolling system and its context including the motivation and strategy for the fee collection and the *toll context data* (3.197)

3.40
clearing house
organization that reallocates value generated in the payment system between the various actors, which enables these actors to execute settlement

3.41
common service rights
service rights for use in two or more schemes

EXAMPLE Number of trips, usage allowance for a time span, zone and distance.

3.42
communication provider
provider of information transmission services

3.43
compatibility
suitability of products, processes or services for use together under specific conditions to fulfil relevant requirements without causing unacceptable interactions

3.44
confidentiality
prevention of information leakage to non-authenticated individuals, parties or processes

3.45
conformance testing
assessment to determine whether an implementation complies with the *specified requirements* (3.176)

3.46
conformity assessment body
body that performs conformity assessment activities, excluding *accreditation* (3.6)

3.47
consent
freely given specific and informed written permission allowing *personal data* (3.136) to be processed

3.48
context dependent itinerary
itinerary (3.106) of which the syntax and semantics depend on the *toll domain's* (3.201) context data (3.197)

3.49
context independent itinerary
itinerary (3.106) of which the syntax and semantics are independent of the *toll domain's* (3.201) *context data* (3.197)

3.50
continuous toll scheme
toll scheme (3.204) where the charge is calculated based on the accumulation of continuously measured parameter(s)

EXAMPLE Distance and time.

3.51
cordon
border line of an area

3.52
cordon charging
cordon pricing
charging for the crossing of a *cordon* (3.51)

3.53
cryptography
principles, means and methods for the transformation of data in order to hide its information content, prevent its undetected modification or prevent its unauthorized use

3.54
data element
coded information, which might itself consist of lower level information structures

3.55
data group
class of closely related *attributes* (3.13)

3.56
data integrity
information integrity
property that data has not been altered or destroyed in an unauthorized manner

3.57
data privacy
information privacy
rights and obligations of individuals and organizations with respect to the collection, use, retention, disclosure and disposal of personal information

3.58
data protection commissioner
data privacy commissioner
person responsible for the *enforcement* (3.73) and *monitoring* (3.120) of compliance with the applicable data protection legislation

3.59
data set
logical set of *data elements* (3.54) with a semantic relation

3.60
dedicated short-range communication
DSRC
short-range wireless communication for the exchange of information between *on-board equipment* (OBE) (3.126) and *roadside equipment (RSE)* (3.161)

Note 1 to entry: DSRC technologies are designed to provide small communication service areas for information exchange between OBU (3.127)/OBE (3.126) and RSE (3.161).

3.61
digital signature
one or more *data elements* (3.54) resulting from the digital signature process

3.62
discrete toll scheme
toll scheme (3.204) where the charge is calculated based on distinct events associated with the identification of *charge objects* (3.31) such as crossing a *cordon* (3.51), passing a bridge and being present in an area

3.63
domestic state agency
agency of the state under whose jurisdiction a *toll scheme* (3.204) is operated

3.64
DSRC on-board unit
minimum component of an *on-board equipment* (3.126), whose functionality always includes at least the support of the *dedicated short-range communication (DSRC)* (3.60) interface

3.65
dynamic toll
toll (3.193) adjusted in real time in response to the actual traffic situation or other actual external conditions

