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Electronic fee collection — System architecture for vehicle-related tolling —

Part 3: Data dictionary

Perception de télépéage — Architecture de systèmes pour le péage lié aux véhicules —

Partie 3: Dictionnaire de données

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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 document 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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 278, *Intelligent transport systems,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces the first edition (ISO/TS 17573-3:2021), which has been technically revised.

The main changes are as follows:

— CO_2 emission class data types have been added to underpin the revised Directive 1999/62/EC[15] (i.e. Eurovignette directive regarding the charging of vehicles for the use of certain infrastructure), updated by Directive (EU) 2022/362;[21]

— a second level of version identifier (i.e. minor version) of the abstract syntax notation one (ASN.1) module has been added to provide enhanced support to standards that import data types from this document.

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.

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Introduction

This document is a part of the ISO 17573 series which defines the system architecture for vehicle-related tolling. ISO 17573-1 gives a reference model for the system architecture. ISO/TS 17573-2 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 (ISO 17573-3) provides a data dictionary that contains the definitions of ASN.1 (data) types and the associated semantics.

The document is intended to be used as a reference by editors of ISO and CEN documents in EFC and in related areas of standardization (such as Intelligent transport systems, ITS).

It is foreseen that the library of ASN.1 (data) types contained in this document will be augmented with additional definitions as these become available.

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Electronic fee collection — System architecture for vehicle-related tolling —

Part 3: Data dictionary

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1 Scope

This document specifies the syntax and semantics of data objects in the field of electronic fee collection (EFC). The definitions of data types and assignment of semantics are provided in accordance with the abstract syntax notation one (ASN.1) technique, as specified in ISO/IEC 8824-1. This document defines:

— ASN.1 (data) types within the fields of EFC;

— ASN.1 (data) types of a more general use that are used more specifically in standards related to EFC.

This document does not seek to define ASN.1 (data) types that are primarily related to other fields that operate in conjunction with EFC, such as cooperative intelligent transport systems (C-ITS), the financial sector, etc.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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/TS 17573-2, *Electronic fee collection — System architecture for vehicle related tolling — Part 2: Vocabulary*

ISO 612, *Road vehicles — Dimensions of motor vehicles and towed vehicles — Terms and definitions*

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

ISO 1176, *Road vehicles — Masses — Vocabulary and codes*

ISO 4217, *Codes for the representation of currencies*

ISO/IEC 7812-1, *Identification cards — Identification of issuers — Part 1: Numbering system*

ISO/IEC 7812-2, *Identification cards — Identification of issuers — Part 2: Application and registration procedures*

ISO/IEC 8824-1, *Information technology — Abstract Syntax Notation One (ASN.1) — Part 1: Specification of basic notation*

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 alphabet No. 3*

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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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TS 17573-2 and the following apply.

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

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

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

3.1
BITSTRING
<type> *simple type* (3.14) whose distinguished values are an ordered sequence of zero, one or more bits

[SOURCE: ISO/IEC 8824-1:2021, 3.8.7, modified — Term modified from "BITSTRING type" to "BITSTRING" and domain "<type>" added.]

3.2
CHOICE
<type> type defined by referencing a list of distinct types; each value of the choice type is derived from the value of one of the *component types* (3.4)

Note 1 to entry: Each value of the choice type is derived from the value of one of the component types.

[SOURCE: ISO/IEC 8824-1:2021, 3.8.14, modified — Term modified from "CHOICE type" to "CHOICE" and domain "<type>" added. Note 1 to entry also added.]

3.3
complex data type
one type that has more than *three levels* (3.17)

3.4
component type
one of the types referenced when defining a `CHOICE` (3.2), `SET` (3.12), `SEQUENCE` (3.10), `SET OF` (3.13), or `SEQUENCE OF` (3.11)

[SOURCE: ISO/IEC 8824-1:2021, 3.8.15]

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