Irish Standard
I.S. EN 1545-1:2015

Identification card systems - Surface transport applications - Part 1: Elementary data types, general code lists and general data elements

I.S. EN 1545-1:2015

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EUROPEAN STANDARD

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EN 1545-1

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Supersedes EN 1545-1:2005

English Version

Identification card systems - Surface transport applications - Part 1: Elementary data types, general code lists and general data elements

Systèmes de cartes d'identification - Applications pour le transport terrestre - Partie 1 : Types de données élémentaires, codes généraux et éléments de données généraux

Identifikationskartensysteme - Landgebundene Transportanwendungen - Teil 1: Elementare Datentypen, allgemeine Codelisten und generelle Datenelemente

This European Standard was approved by CEN on 27 September 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 1545-1:2015) has been prepared by Technical Committee CEN/TC 224 "Personal identification, electronic signature and cards and their related systems and operations", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2015 and conflicting national standards shall be withdrawn at the latest by October 2015.

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.

This document supersedes EN 1545-1:2005.

This European Standard comprises the following parts, under the general title "Identification card systems - Surface transport applications":

- General part:

Part 1: Elementary data types, general code lists and general data elements;

- Sector specific part:

Part 2: Transport and travel payment related data elements and codelists.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: 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

ICs offer far greater opportunities for use in surface transport applications (STA) when compared to magnetic stripe and barcoded cards. The standardisation of data elements, which is the purpose of this European Standard, facilitates the use of ICs across multiple transport applications and operators, and in a variety of transport related terminals. This European Standard also permits application builders to minimise data duplication.

This European Standard contains definitions of data formats, data elements, data types and specifies data elements with associated codelists. It is for use in the creation of surface transport related data structures that may reside on a transport application. Abstract Syntax Notation One (ASN.1) has been used in the definition of data types in this European Standard.

This European Standard provides a comprehensive toolbox of data elements and types as the basis for the creation of data structures to be used in STAs. This European Standard alone does not ensure interoperability; this is left to the application builders. The definition of data structures to be used in STAs is left to applications.

This European Standard has a hierarchical approach:

1. basis for all definitions used in this European Standard is ASN.1 (ISO/IEC 8824);

2. EN 1545-1 standardises its general elements, data types and data elements with associated code lists in accordance with ASN.1;

3. sectoral parts of this European Standard (EN 1545-2) define the sector specific elements and codes. Apart from the sector specific codes that are directly based on ASN.1 all definitions of sector specific data elements have to be based on EN 1545-1 definitions;

4. it is left to applications to define the relevant data structures (data objects) strictly based on the definitions of EN 1545.

4. Any transport application

data structures (objects)

sector specific data elements from EN 1545-sectoral

sector specific codes from EN 1545-sectoral

general data elements from EN 1545-1

elementary data types from EN 1545-1

general data elements with code lists from EN 1545-1

3. EN 1545-sectoral

sector specific data elements

general data elements from EN 1545-1

elementary data types from EN 1545-1

sector specific code lists

codes expressed in ASN.1

2. EN 1545-1

general data elements

elementary data types from EN 1545-1

universal ASN.1 types from ISO/IEC 8824

general data elements with associated code lists

codes expressed in ASN.1

elementary data types

universal ASN.1 types from ISO 8824

1. ISO 8824

universal ASN.1 data types

This European Standard refers to existing ASN.1 encoding rules (transfer syntaxes), such as the basic and packed encoding rules, for use within surface transport applications. However this European Standard does not exclude the use of other encoding rules.

The ASN.1 basic encoding rules (BER) includes significant redundancy in order to make transferred data fully self-defining, which may result in data structures too large to be used in applications on ICs with restricted data storage capacity. Therefore this European Standard allows the use of alternative encoding rules such as the ones based upon the ASN.1 packed encoding rules (PER) (see Clause 9).

The mechanism for how to establish the application context, including the decision as to which encoding rules to use, is outside the scope of this European Standard.

This European Standard does not pretend to identify and specify every possible ASN.1 type that may be used in future applications by application builders. In addition, local systems may be defined in their own way.

This European Standard will be updated and added to over time as new surface transport applications are created, in accordance with the normal CEN practice.

1 Scope

This European Standard specifies data formats, data elements, data types and data elements with associated codelists for general use within surface transport applications (STAs) on ICs.

The mechanism for how to establish the application context, including the decision of which encoding rules to use, is outside the scope of this European Standard.

2 Normative references

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

EN 1332-4, *Identification card systems - Man-machine interface - Part 4: Coding of user requirements for people with special needs*

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

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

ISO 4217, *Codes for the representation of currencies*

ISO/IEC 5218, *Information technology — Codes for the representation of human sexes*

ISO/IEC 7816-5:2004, *Identification cards — Integrated circuit cards — Part 5: Registration of application providers*

ISO/IEC 7816-6:2004, *Identification cards — Integrated circuit cards — Part 6: Interindustry data elements for interchange*

ISO/IEC 8824-1:2008, *Information technology — Abstract Syntax Notation One (ASN.1): Specification of basic notation — Part 1*

ISO/IEC 8825-1:2008, *Information technology — ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER) — Part 1*

ISO/IEC 8825-2:2008, *Information technology — ASN.1 encoding rules: Specification of Packed Encoding Rules (PER) — Part 2*

ISO 14816, *Road transport and traffic telematics — Automatic vehicle and equipment identification — Numbering and data structure*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
account
a precise list or enumeration of financial transactions held in a central location, used for payment for services. When payment is made through the use of a card, the card identifies the centrally held account