TECHNICAL SPECIFICATION

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Electronic fee collection — Personalization of on-board equipment (OBE) —

Part 3: Using integrated circuit(s) cards

Perception de télépéage — Personnalisation des équipements embarqués —

Partie 3: Utilisation de cartes à circuit(s) intégré(s)

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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).

A list of all parts in the ISO/TS 21719 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

On-board equipment (OBE) is an in-vehicle device that contains one or more application instances in order to support different intelligent transportation system (ITS) implementations such as electronic fee collection (EFC).

To assign the EFC application in the OBE to a certain user and/or vehicle, personalization is performed. This means that unique user and vehicle related data are transferred to and stored in the OBE.

CEN/TR 16152 assesses many aspects of the personalization process and it defines the overall personalization assets (application data, application keys and vehicle-related data).

Different communication media may be used for transferring the personalization assets to the OBE. An overall message exchange framework and needed security functionality may be applied, for all media common procedures, in order to ensure data protection and integrity.

By standardizing the personalization procedure, compatibility of personalization equipment (PE) is supported. The entity responsible for the personalization, such as a toll service provider, will further be able to outsource parts of, or a complete, personalization to a third party or to another service provider or personalization agent.

The scope of the personalization functionality is illustrated in Figure 1. It is limited to the transfer of data between the PE and the OBE by using integrated circuit(s) cards (ICCs).

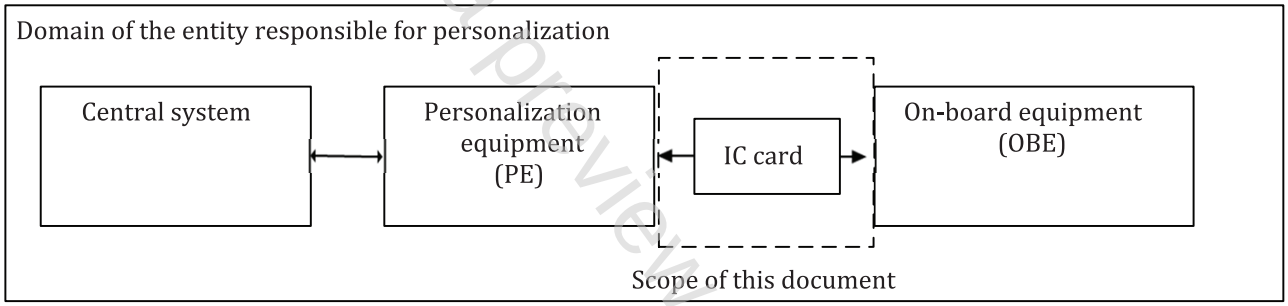

Figure 1 — Scope of this document (box delimited by a dotted line)

This document defines a complete application profile (AP), using ICCs in accordance with the ISO/IEC 7816-3, ISO/IEC 7816-4, ISO/IEC 14443-3, ISO/IEC 14443-4 and the ISO/IEC 15693 series (Table 1), in accordance with the personalization functionality described in ISO/TS 21719-1.

Figure 2 shows the relationship of this document.

There are two interfaces (PE-ICC, ICC-OBE). For further details, see Annex A.

This document may be supplemented by a set of specifications which define the conformity evaluation of equipment to the conformance requirements contained in this document.

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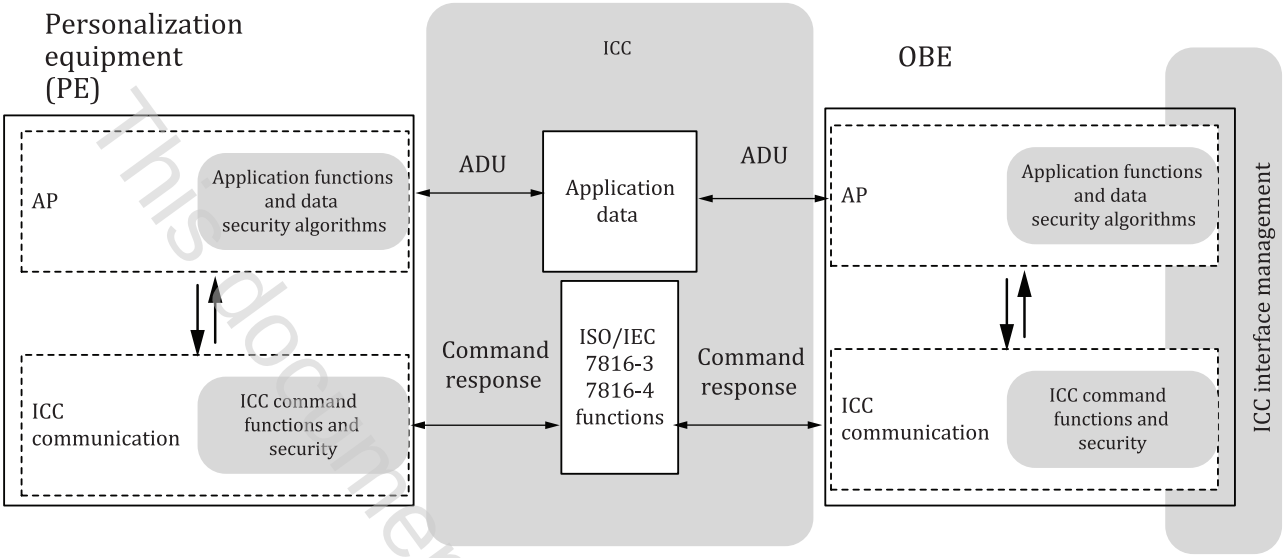

Figure 2 — Relationship between this document and ICC communication

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Electronic fee collection — Personalization of on-board equipment (OBE) —

Part 3: Using integrated circuit(s) cards

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1 Scope

This document specifies:

— personalization interface;

— physical systems: on-board equipment (OBE), personalization equipment (PE) and integrated circuit(s) cards (ICCs);

— electronic fee collection (EFC) personalization functions between the PE and the OBE in accordance with ISO/TS 21719-1 when using an ICC;

— data and security elements that are transferred between the PE and the OBE using the ICC.

It is outside the scope of this document to define:

— conformance procedures and test specifications;

— setting-up of operating organizations (e.g. toll service provider, personalization agent, trusted third party, etc.);

— legal issues;

— the exact commands and security functionality within ISO/IEC 7816-4 used by the PE and the OBE, respectively, to interface an ICC.

NOTE Some of the issues that are outside the scope of this document are the subject of separate standards prepared by CEN/TC 278 and ISO/TC 204.

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.

ISO/IEC 7816-3, *Identification cards — Integrated circuit cards — Part 3: Cards with contacts — Electrical interface and transmission protocols*

ISO/IEC 7816-4, *Identification cards — Integrated circuit cards — Part 4: Organization, security and commands for interchange*

ISO/IEC 14443-3, *Cards and security devices for personal identification — Contactless proximity objects — Part 3: Initialization and anticollision*

ISO/IEC 14443-4, *Cards and security devices for personal identification — Contactless proximity objects — Part 4: Transmission protocol*

ISO/IEC 15693 (all parts), *Cards and security devices for personal identification — Contactless vicinity objects*

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