TECHNICAL SPECIFICATION

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Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-2 —

Part 1: Test suite structure and test purposes

Perception du télépéage — Évaluation de conformité de l'équipement à l'ISO/TS 17575-2 —

Partie 1: Structure de la suite d'essais et objectifs d'essai

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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.

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 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order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn.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again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.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 16401-1 was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*, in collaboration with Technical Committee CEN/TC 278, *Road transport and traffic telematics*.

ISO/TS 16401 consists of the following parts, under the general title *Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-2*:

— *Part 1: Test suite structure and test purposes*

— *Part 2: Abstract test suite*

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Introduction

This part of ISO/TS 16401 is part of a set of standards that supports interoperability of autonomous EFC-systems, which includes ISO/TS 17575 parts 1 to 4 that define the EFC context data, their *charge report*s and their use of communication infrastructure.

Within the suite of EFC standards this conformance evaluation procedure defines the process and tests for conformity evaluation of Front End Communications API and *Front End application* that comply with the requirements in ISO/TS 17575-2.

This part of ISO/TS 16401 is intended to

— assess Front End Communications API and *Front End application* capabilities,

— assess Front End Communications API and *Front End application* behaviour,

— serve as a guide for Front End Communications API and *Front End application* conformance evaluation and type approval,

— achieve comparability between the results of the corresponding tests applied in different places at different times, and

— facilitate communications between parties.

This part of ISO/TS 16401 is based on

— ISO/TS 17575-2, and

— the ISO/IEC 9646 family of standards on conformance test methodology.

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Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-2 —

Part 1: Test suite structure and test purposes

1 Scope

This part of ISO/TS 16401 specifies the test suite structure (TSS) and test purposes (TP) to evaluate the conformity of Front End Communications API and *Front End application* to ISO/TS 17575-2.

The objective of this part of ISO/TS 16401 is to provide a basis for conformance tests for Front Ent Communications API and *Front End application* in Electronic Fee Collection based on autonomous on-board equipment (OBE) to enable interoperability between different equipment supplied by different manufacturers.

This part of ISO/TS 16401 covers the test purposes for Front End Communications API covering functionalities related to instance handling, session handling, communication service primitives (i.e. sending/receiving of ADUs) and visible state transitions. It fully covers EFC communication services claimed in ISO/TS 17575-2 clause 7 and PICS proforma Clause B.2 ISO/TS 17575-2. Claims related to Front End Storage capacity are outside of the scope of this part of ISO/TS 16401.

This part of ISO/TS 16401 covers the test purposes for *Front End application* related to session establishment on *Back End* request and related to session re-establishment when session requested by *Back End* failed. There are no other claims with respect to *Front End application* claimed in ISO/TS 17575-2.

The underlying communication technology requirements for layer 1-4 specified in Clause 8 ISO/TS 17575-2 is outside of the scope of this part of ISO/TS 16401.

Similarly *Back End* communications API is outside of the scope of this part of ISO/TS 16401. According to ISO/TS 17575-2 it is expected that these Front End Communications API will be reflected in the BE, however BE Communications API is outside of the scope of ISO/TS 17575-2.

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/TS 17575-1, *Electronic fee collection — Application interface definition for autonomous systems — Part 2: Charging*

ISO/TS 17575-2, *Electronic fee collection — Application interface definition for autonomous systems — Part 2: Communication and connection to the lower layers*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TS 17575-1 and the following apply.

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