TECHNICAL SPECIFICATION

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CEN ISO/TS 16401-1

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English Version

Electronic fee collection - Evaluation of equipment for conformity to ISO/TS 17575-2 - Part 1: Test suite structure and test purposes (ISO 16401-1:2012)

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 (ISO 16401-1:2012)

Elektronische Gebührenerhebung - Konformitätsevaluierung von Einrichtungen nach CEN ISO/TS 17575-2 - Teil 1: Prüfreihen Struktur und Prüfabsichten (ISO 16401-1:2012)

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Foreword

This document (CEN ISO/TS 16401-1:2012) has been prepared by Technical Committee CEN/TC 278 "Road transport and traffic telematics", the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 204 "Intelligent transport systems".

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.

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Contents

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.

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.