This is a free page sample. Access the full version online.

NSAI Standards

Standard Recommendation
S.R. CEN ISO/TS 16407-1:2011

Electronic fee collection - Evaluation of equipment for conformity to ISO/TS 17575 -1 - Part 1: Test suite structure and test purposes (ISO/TS 16407-1:2011)

© NSAI 2011 No copying without NSAI permission except as permitted by copyright law.

This is a free page sample. Access the full version online.

S.R. CEN ISO/TS 16407-1:2011

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:

This document is based on:
CEN ISO/TS 16407-1:2011

Published:
31 October, 2011

This document was published under the authority of the NSAI and comes into effect on:

31 October, 2011

ICS number:

03.220.20

35.240.60

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie

W **NSAI.ie**

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

S.R. CEN ISO/TS 16407-1:2011

TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

CEN ISO/TS 16407-1

October 2011

ICS 35.240.60; 03.220.20

English Version

Electronic fee collection - Evaluation of equipment for conformity to ISO/TS 17575-1 - Part 1: Test suite structure and test purposes (ISO/TS 16407-1:2011)

Perception du télépéage - Évaluation de la conformité de l'équipement à l'ISO/TS 17575-1 - Partie 1: Structure de la suite d'essais et objectifs des essais (ISO/TS 16407-1:2011)

Elektronische Gebührenerfassung - Konformitätsevaluierung von Geräten gemäß CEN ISO/TS 17575-1 - Teil 1: Struktur der Testfälle und deren Absichten (ISO/TS 16407-1:2011)

This Technical Specification (CEN/TS) was approved by CEN on 15 August 2011 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2011 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. CEN ISO/TS 16407-1:2011: E

This is a free page sample. Access the full version online.

Contents

Page

Foreword.....3

This is a free page sample. Access the full version online.

Foreword

This document (CEN ISO/TS 16407-1:2011) 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.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

This is a free page sample. Access the full version online.

This page is intentionally left BLANK.

This is a free page sample. Access the full version online.

S.R. CEN ISO/TS 16407-1:2011

TECHNICAL SPECIFICATION

ISO/TS 16407-1

First edition
2011-10-15

Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-1 —

Part 1: Test suite structure and test purposes

Perception du télépéage — Évaluation de la conformité de l'équipement à l'ISO/TS 17575-1 —

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

Reference number
ISO/TS 16407-1:2011(E)

© ISO 2011

This is a free page sample. Access the full version online.

COPYRIGHT PROTECTED DOCUMENT

© ISO 2011

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

This is a free page sample. Access the full version online.

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 2

3 Terms and definitions 2

4 Abbreviated terms 3

5 Value added tax (VAT) Test Suite Structure (TSS) 4

5.1 Structure 4

5.2 Reference to conformance test specifications 4

5.3 Test purposes (TP) 5

5.4 Conformance test report 6

Annex A (normative) **Test purposes (TP) for Front End** 7

Annex B (normative) **Test purposes (TP) for Back End** 87

Annex C (normative) **Data Structures** 90

Annex D (normative) **PCTR for Front End** 91

Annex E (normative) **PCTR for Back End** 97

Bibliography 101

© ISO 2011 – All rights reserved

This is a free page sample. Access the full version online.

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 16407-1 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 16407 consists of the following parts, under the general title *Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-1*:

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

— *Part 2: Abstract test suite*

© ISO 2011 – All rights reserved

This is a free page sample. Access the full version online.

Introduction

This part of ISO/TS 16407 is part of a set of standards that supports interoperability of autonomous electronic fee collection (EFC) systems, which includes ISO/TS 17575 parts 1 to 4 that define the EFC context data, their charge reports 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 and Back End that comply with the requirements in ISO/TS 17575-1.

This part of ISO/TS 16407 is intended to

— assess Front End and Back End capabilities,

— assess Front End and Back End behaviour,

— serve as a guide for Front End and Back End conformance evaluations and type approvals,

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

— facilitate communication between parties.

This part of ISO 16407 is based on

— ISO/TS 17575-1, and

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

© ISO 2011 – All rights reserved

This is a free page sample. Access the full version online.

This is a free page sample. Access the full version online.

Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-1 —

Part 1:
Test suite structure and test purposes

1 Scope

This part of ISO/TS 16407 specifies the test suite structure (TSS) and test purposes (TP) to evaluate the conformity of Front End and Back End to ISO/TS 17575-1.

The objective of this part of ISO/TS 16407 is to provide a basis for conformance tests for the Front End and the Back End in electronic fee collection (EFC) based on autonomous on-board equipment (OBE) to enable interoperability between different equipment supplied by different manufacturers.

Autonomous OBE operates without relying on dedicated road-side infrastructure by employing wide-area technologies such as global navigation satellite systems (GNSS) and cellular communications networks (CN). These EFC systems are referred to by a variety of names. Besides the terms autonomous systems and GNSS/CN systems, also the terms GPS/GSM systems and wide-area charging systems are in use.

Autonomous systems use satellite positioning, often combined with additional sensor technologies such as gyroscopes, odometers, and accelerometers, to localise the vehicle and to find its position on a map containing the charged geographic objects, such as charged roads or charged areas. From the charged objects, the vehicle characteristics, the time of day and other data that are relevant for describing road use, the tariff and ultimately the road usage fee is determined.

The testing of the following behaviours and functionalities is outside of the scope of this part of ISO/TS 16407:

— dynamic behaviour, i.e. sequence of messages and triggering events that must be exchanged/happen to fulfil certain charging scenarios;

— profiles and business logic built on top of particular pricing schemas;

— authentication, as its handling is not described in ISO/TS 17575-1;

— account update procedure ("reload" and "add to account") with respect to time and duration based on on-board accounts, as run-time environment has significant impact on test purpose outcome.

As ISO/TS 17575-1 does not specify any invalid behaviour of Front End and Back End, BI test purposes are not applicable for any test purpose group.

As ISO/TS 17575-1 does not define which of the data elements shall be present in the charge report response (CRR) (and under which conditions), the scope of test purposes (TP) for Back End is very limited.

© ISO 2011 – All rights reserved

SAI GLOBAL

This is a free preview. Purchase the entire publication at the link below:

Product Page

Looking for additional Standards? Visit Intertek Inform Infostore

Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation