
**Electronic fee collection —
Evaluation of equipment for
conformity to
ISO 17575-3 —**

**Part 2:
Abstract test suite**

*Perception du télépéage — Évaluation de la conformité de
l'équipement à l'ISO 17575-3 —*

Partie 2: Suite d'essais abstraite



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Published in Switzerland

Contents

	Page
Foreword	iv
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Abbreviated terms	2
5 Abstract test method (ATM)	2
5.1 Introduction.....	2
5.2 Test architecture.....	3
5.2.1 Security.....	3
5.3 Protocol Implementation Extra Information for Testing (PIXIT).....	3
6 Untestable test purposes (TPs)	4
7 ATS data structures	4
7.1 ASN.1 description.....	4
7.2 Parameterized support.....	4
8 Message filtering	6
9 ATS naming conventions	6
9.1 Introduction.....	6
9.2 Definition naming conventions.....	6
9.3 Test case identifier.....	7
9.4 TTCN-3 modules identifier.....	8
Annex A (normative) Abstract test suite (ATS) for FE and BE	9
Annex B (informative) PIXIT proforma for FE and BE	10
Bibliography	12

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

This first edition of ISO 16410-2 cancels and replaces ISO/TS 16410-2:2012, which has been technically revised. The following changes have been made:

- conversion from a Technical Specification to an International Standard;
- amendments to reflect changes to the underlying base standards, especially ISO 17575;
- major changes regarding:
 - data element changes introduced by ISO 17575-1:2016 and ISO 17575-3:2016;
- new test cases related to:
 - protocol version handling;
 - toll context partitions;
 - fee calculation algorithm;
 - rounding rules;
 - alternative currency;
- removed test cases related to:
 - communications services;
 - rules with respect to support of context data which are not anymore required by ISO 17575-3:2016;
- revised terms and definitions;

— editorial and formal corrections as well as changes to improve readability.

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.

Introduction

This document is part of a series standards that supports interoperability of autonomous EFC-systems. 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.

Autonomous on-board equipment (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). Therefore, autonomous systems may also be referred to as GNSS/CN systems.

Within the ISO 16410 series this document defines tests for conformity evaluation of Front End and Back End that comply with the requirements towards the context data specified in ISO 17575-3.

ISO 16410-2 is based on ISO 16410-1.

Electronic fee collection — Evaluation of equipment for conformity to ISO 17575-3 —

Part 2: Abstract test suite

1 Scope

The ISO 16410 series provides a suite of tests in order to assess the Front End (FE) and Back End (BE) behaviour's compliancy towards the requirements listed in ISO 17575-3. This document contains the definition of such tests in the form of test cases, reflecting the required individual steps listed in specific test purposes defined in ISO 16410-1. The test cases are written in Testing and Test Control Notation version 3 (TTCN v3).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 16410-1, *Electronic fee collection — Evaluation of equipment for conformity to ISO 17575-3 — Part 1: Test suite structure and test purposes*

ISO 17575-1:2016, *Electronic fee collection — Application interface definition for autonomous systems — Part 1: Charging*

ISO 17575-3:2016, *Electronic fee collection — Application interface definition for autonomous systems — Part 3: Context data*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

Back End

part of a back office system interfacing to one or more Front Ends

[SOURCE: ISO 17575-1:2016, 3.4]

3.2

conformance testing

assessment to determine whether an implementation complies with the requirements