



**SLOVENSKI STANDARD**  
**SIST-TS CEN ISO/TS 17574:2009**  
**01-november-2009**

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Road transport and traffic telematics - Electronic fee collection (EFC) - Guidelines for EFC security protection profiles (ISO/TS 17574:2009)

Elektronische Gebührenerfassung - Richtlinien für Sicherheitsprofile (ISO/TS 17574:2009)

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Transports routiers et télématique routière - Systèmes de péage électronique - Lignes directrices concernant les profils de protection de la sécurité des péages (ISO/TS 17574:2009)

**Ta slovenski standard je istoveten z: CEN ISO/TS 17574:2009**

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**ICS:**

03.220.20	Cestni transport	Road transport
35.240.60	Uporabniške rešitve IT v transportu in trgovini	IT applications in transport and trade

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TECHNICAL SPECIFICATION  
SPÉCIFICATION TECHNIQUE  
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**CEN ISO/TS 17574**

September 2009

ICS 35.240.60; 03.220.20

Supersedes CEN ISO/TS 17574:2004

English Version

**Electronic fee collection - Guidelines for security protection  
profiles (ISO/TS 17574:2009)**

Perception de télépéage - Lignes directrices concernant les  
profils de protection de la sécurité (ISO/TS 17574:2009)

Elektronische Gebührenerfassung - Richtlinien für  
Sicherheitsprofile (ISO/TS 17574:2009)

This Technical Specification (CEN/TS) was approved by CEN on 14 September 2009 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.

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## Foreword

This document (CEN ISO/TS 17574:2009) 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.

This document supersedes CEN ISO/TS 17574:2004.

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, 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.

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# TECHNICAL SPECIFICATION

# ISO/TS 17574

Second edition  
2009-09-15

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## Electronic fee collection — Guidelines for security protection profiles

*Perception de télépéage — Lignes directrices concernant les profils  
de protection de la sécurité*

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## ISO/TS 17574:2009(E)

## 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 17574:2009 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 278 *Road Transport and Traffic Telematics* in collaboration with Technical Committee ISO/TC 204, *Intelligent transport systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO/TS 17574:2004) which has been technically revised.

## Introduction

Electronic Fee Collection (EFC) systems are subject to several ways of fraud both by users and operators but also from people outside the system. These security threats have to be met by different types of security measures including security requirements specifications.

It is recommended that EFC operators or national organizations, e.g. highway authorities or transport ministries, use the guideline provided by this Technical Specification to prepare their own EFC/PP, as security requirements should be described from the standpoint of the operators and/or operators', organizations.

It should be noted that this Technical Specification is of a more informative than normative nature and it cannot be used without also using the ISO/IEC 15408 series. Most of the content of this Technical Specification is an example shown in Annex A on how to prepare the security requirements for EFC equipment, in this case a DSRC based OBE with an IC-card loaded with crucial data needed for the EFC. The example refers to a Japanese national EFC system and should only be regarded and used as an example.

After an EFC/PP is prepared, it can be internationally registered by the organization that prepared the EFC/PP so that other operators or countries that want to develop their EFC system security services can refer to an already registered EFC/PP.

This EFC related standard on security service framework and EFC/PP is based on the ISO/IEC 15408 series. ISO/IEC 15408 includes a set of requirements for the security functions and assurance of IT relevant products and systems. Operators, organizations or authorities defining their own EFC/PP can use these requirements. This will be similar to the different PPs registered by several financial institutions, e.g. for payment instruments like IC-cards.

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The products and systems that were developed in accordance with ISO/IEC 15408, can be publicly assured by the authentication of the government or designated private evaluation agencies.

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# Electronic fee collection — Guidelines for security protection profiles

## 1 Scope

This Technical Specification provides a **guideline** for preparation and evaluation of security requirements specifications, referred to as Protection Profiles (PP) in the ISO/IEC 15408 series and in ISO/IEC TR 15446. By a Protection Profile (PP) is meant a set of security requirements for a category of products or systems that meet specific needs. A typical example would be a PP for On-Board Equipment (OBEs) to be used in an EFC system.

This Technical Specification should be read in conjunction with the underlying standards ISO/IEC 15408 and ISO/IEC TR 15446. Although a layman could read the first part of the document to have an overview on how to prepare a Protection Profile for EFC equipment, the annexes, in particular A.4 and A.5, require that the reader be familiar with ISO/IEC 15408. The document uses an OBE with an integrated circuit(s) card (ICC) as an example to describe both the structure of the PP as well as the proposed content.

Figure 1 shows how this document fits in the overall picture of EFC security architecture. The shaded boxes are the aspects mostly related to the preparation of PPs for EFC systems.

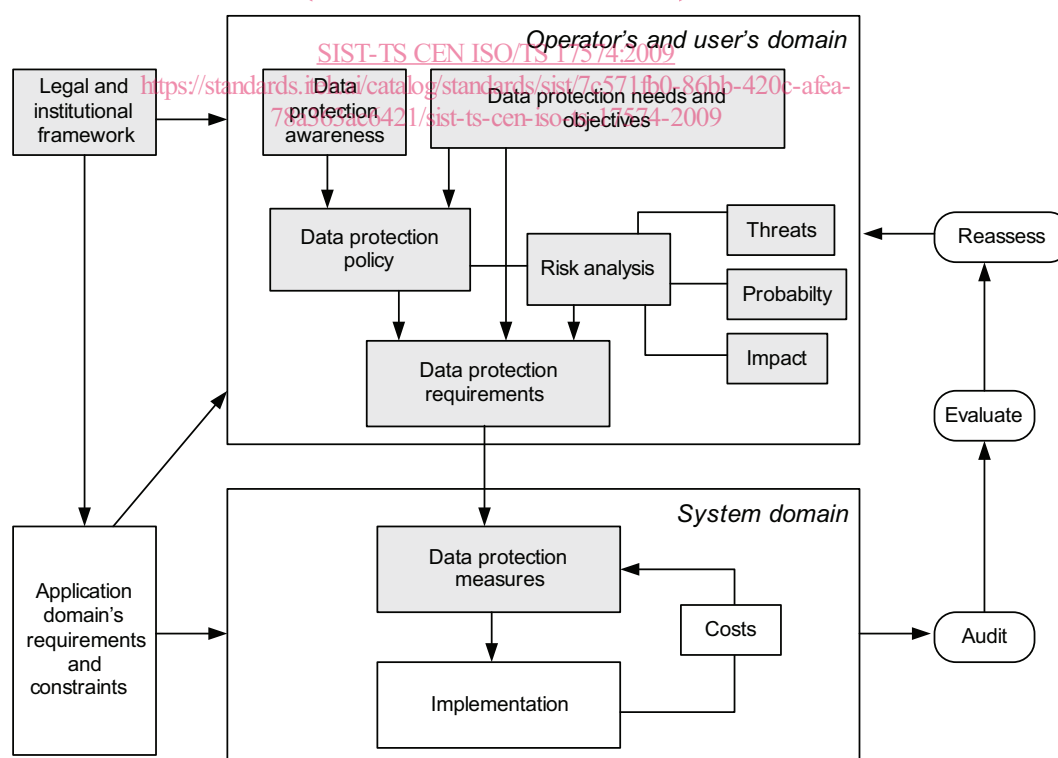


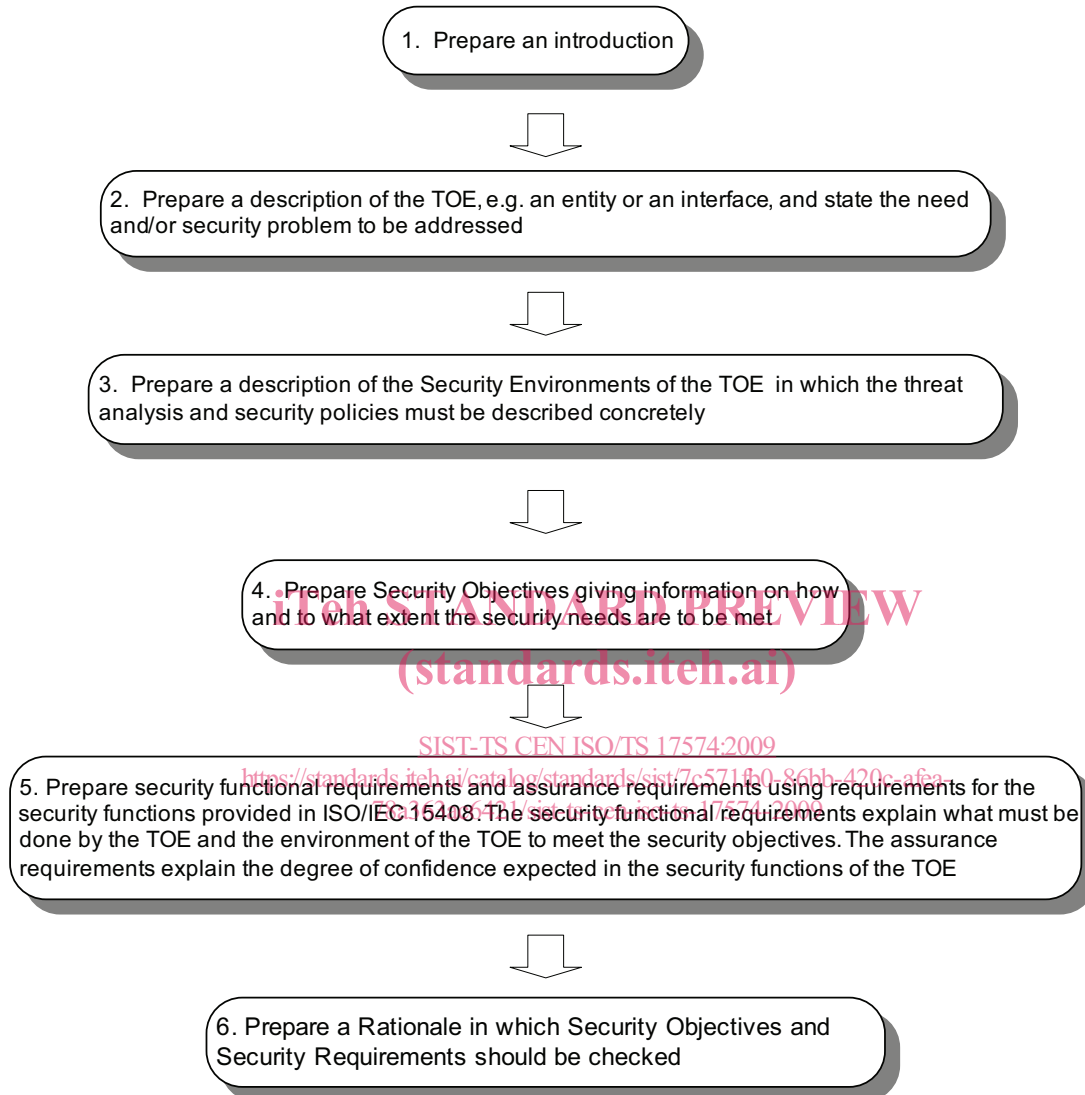
Figure 1 — Overall view of security architecture

The main purpose of a PP is to analyse the security environment of a subject and then to specify the requirements meeting the threats that are the output of the security environment analysis. The subject studied

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is called the target of evaluation (TOE). In this document, an OBE with an ICC is used as an example of the TOE.

The preparatory work of EFC/PP consists of the steps shown in Figure 2 (in line with the contents described in Clause 5).



**Figure 2 — The process of preparing a Protection Profile for EFC equipment**

A PP may be registered publicly by the entity preparing the PP in order to make it known and available to other parties that may use the same PP for their own EFC systems.

By a Security Target (ST) is meant a set of security requirements and specifications to be used as the basis for evaluation of an identified TOE. While the PP could be looked upon as the EFC operator requirements the ST could be looked upon as the documentation of a supplier as for the compliance with and fulfilment of the PP for the TOE, e.g. an OBE.

Figure 3 shows a simplified picture and example of the relationships between the EFC operator, the EFC equipment supplier and an evaluator. For an international registry organization, i.e. Common Criteria Recognition Arrangement (CCRA) and current registered PPs, please refer to Annex D.

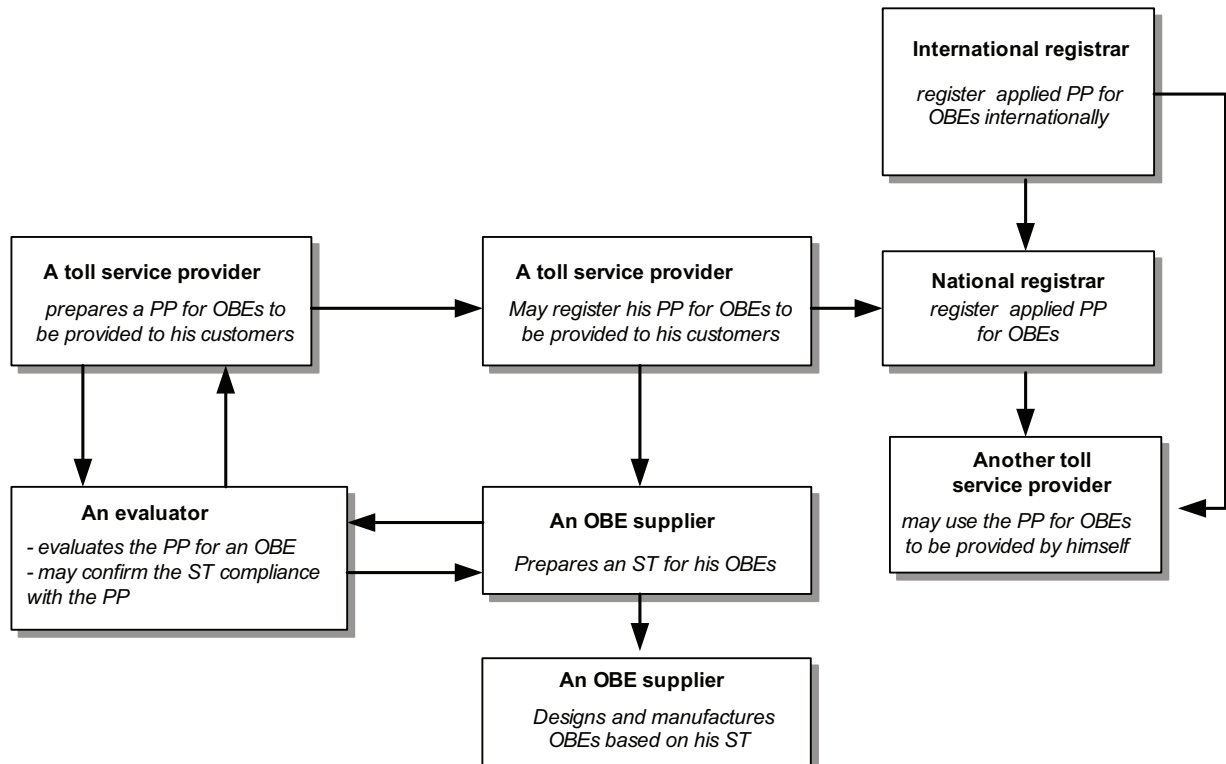


Figure 3 — Relationships between operators, suppliers and evaluators

The ST is similar to the PP, except that it contains additional implementation-specific information detailing how the security requirements are realised in a particular product or system. Hence, the ST includes the following parts not found in a PP:

- a TOE summary specification that presents the TOE-specific security functions and assurance measures;
- an optional PP claims the portion that explains PPs with which the ST is claimed to be conformant (if any);
- a rationale containing additional evidence establishing that the TOE summary specifications ensure satisfaction of the implementation-independent requirements, and that claims about PP conformance are satisfied;
- actual security functions of EFC products will be designed based on this ST; see example in Figure 4.