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Intelligent transport systems — Public transport requirements for the use of payment applications for fare media

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National foreword

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Contents

Page

Foreword ... **iv**

Introduction ... **v**

1 Scope ... **1**

2 Terms and definitions ... **1**

3 Symbols and abbreviated terms ... **3**
3.1 CNP ... 4
3.2 HHT ... 4
3.3 PAN ... 4
3.4 PT ... 4
3.5 PTO ... 4
3.6 TDA ... 4
3.7 TR ... 4
3.8 ZVT ... 4

4 Objectives and general requirements for the PTO ... **5**

5 Use cases ... **5**
5.1 Use case 1: Product purchase for loading on customer media ... 6
5.2 Use case 2: Access with PTO product data in payment application ... 6
5.3 Use case 3: Pay single journeys on validation ... 7
5.4 Use case 4: Pay after a period ... 8
5.5 Use case 5: Entitlement with payment application ... 9

6 Requirements for payment applications used in transport ticketing ... **10**
6.1 Payment application storage options ... 10
6.2 Payment application without any public transport data ... 10
6.3 Payment application with payment transaction logs ... 10
6.4 Payment applications with transit data areas (TDAs) ... 12
6.5 Supported transaction types ... 14

7 Matching between use cases, validation access rules and payment application types ... **16**
7.1 Revenue protection and inspection ... 18

8 Security of payment applications ... **18**

9 Condition for use in a multi-application context ... **19**
9.1 Using payment application in a multi-application media ... 19
9.2 PTO Participation in the life cycle management of payment applications ... 19
9.3 Payment application selection ... 19

10 Test and certification of payment applications ... **20**
10.1 Ease of integration into front end equipment ... 20
10.2 RF protocol testing ... 20
10.3 (SE) payment application certification ... 20
10.4 Terminal payment application certification ... 21
10.5 Transaction time ... 22

11 Customer data privacy ... **22**

Annex A (informative) **Business rules checklist for using payment applications** ... **23**

Annex B (informative) **Options for providing interoperability between PTOs B.1: Background** ... **28**

Bibliography ... **30**

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. www.iso.org/directives

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The committee responsible for this document is ISO/TC 204, *Intelligent transport systems*.

Introduction

For several years, payment institutions have started to roll out worldwide contactless payment cards. These cards support a contactless interface in addition to a contact interface or magstripe.

Where made available by Payment Application Issuers, these cards might be used by the Public transport industry for accessing the transport networks for specific use cases and customer groups. To facilitate payment application usage, the Public transport industry will benefit from data storage within the payment application, but this data storage capability is not a compulsory prerequisite as some Public transport Operators (PTOs) will start accepting payment application without such data storage facilities.

This Technical Report describes the current state of the art in a fast changing subject domain. It should not be used as the primary basis for system procurements. It describes PTO requirements for the ways that payment cards, or more specifically, payment applications (see Notice below), can be used by the PTOs to serve specific customer needs. The PTO requirements expressed in this Technical Report aim at being applicable to all payment application scheme/brand specifications for, and only for, the listed use cases in this Technical Report. For the use cases primarily based on the contactless interface, this Technical Report describes the functions needed by the Public transport industry and provides requirements from PTOs to the payment industry. Note that not all PTO requirements are currently available and some will require further discussion between the payment industry and PTOs, possibly leading to further developments in the availability and use of payment application functions. This Technical Report will be updated according to ISO procedures to reflect the evolution of PTO requirements and the corresponding level of functionality afforded by the payment industry. It assumes that any available data storage space will allow the storage of limited information only but may not be able to host fare products as they are defined today for ticketing applications (e.g. it might not be sensible to store a season ticket in a record that might be overwritten).

This Technical Report has been designed to provide ticketing and payment system designers who wish to accept payment applications with a clear definition of what usage options are available from these payment applications. It describes the functional interface to the payment application, with the aim of facilitating the design and procurement of fare collection systems.

Annexes A and B also provide:

— a checklist of commercial issues that need to be addressed by Public transport (PT), usually under a contract with a bank providing merchant acquiring services;

— options for providing interoperability between fare payment schemes that use bank issued payment applications, including proposals for any concomitant changes to those payment applications and payment application scheme rules.

NOTICE: The term "Payment application" used in this Technical Report refers to both an application resident either in a conventional payment card or an application loaded into a multi-application customer media (as described in ISO/TR 24014-3[3]).

Intelligent transport systems — Public transport requirements for the use of payment applications for fare media

1 Scope

This Technical Report defines the requirements from public transport for payment application owners to specify their application to make payment application media accepted as a tool to access the public transport networks by means of either media centric or back-office centric fare management systems, for non-local and non-frequent users as well as regular users.

This Technical Report defines both technical and non-technical requirements needed.

Four main items have been identified:

— Discrepancies between the existing payment application scheme rules and PTOs expectations.

— Definition of a short lifecycle storage area (scratchpad) which may support Check-In/Check-Out access and inspection processes.

— Definition of a long life cycle storage area (product area) to store a transport and other products within the payment application.

— Condition for use in a multi-application context, when different payment and transport applications are implemented in the same medium.

This Technical Report describes the requirements for:

— Level of Security and associated trust model;

— Conditions for the use of the specific storage area and the overwriting of products or data.

This Technical Report does not describe commercial issues which have to be defined for an implementation and may differ from place to place, e.g.:

— From Media Owner to Customer;

— From Media Owner to Application Owners;

— From Payment Application owner to customer;

— From Payment Application Owner to Public transport;

— From Public transport to Customer.

The first cases addressed by this Technical Report are EMV contactless applications and those variants (not strictly EMV) with application storage. All other payment applications (e.g. contactless magstripe emulation) will be addressed potentially in a future version of this Technical Report.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply: