
**Core banking — Mobile financial
services —**

**Part 5:
Mobile payments to businesses**

*Opérations bancaires de base — Services financiers mobiles —
Partie 5: Paiements mobiles à entreprises*



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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 68, *Financial services*, Subcommittee SC 7, *Core banking*.

A list of all the parts in the ISO 12812 series can be found on the ISO website.

Introduction

The use of mobile devices to conduct financial services is occurring following the steady rise of the number of customers using the Internet for these services. As an evolving market, mobile financial services (MFSs) are being developed and implemented on various bases throughout different regions of the world and also among the various providers of such MFSs (MFSPs). Given these conditions, then, the purpose of this document is to facilitate and promote interoperability, security and quality of MFSs, while providing an environment where all stakeholders can benefit from the evolution, and MFSPs remain as commercially free and competitive as possible to design their own implementations in pursuing their own business strategies.

The intentions of this document are:

- a) to advance interoperability of MFSs globally by building an international vision of this environment and by defining requirements based on a common terminology and basic principles for the design and operation of MFSs (see ISO 12812-1:2017, Clause 5);
- b) to define technical components and their interfaces, as well as roles that may be performed by different MFSPs (e.g. financial institutions, mobile network operators, trusted service managers). These components and their interfaces, as well as roles, are defined according to identified use cases, although future use cases may be considered during the maintenance of the standard;
- c) to identify existing standards on which MFSs should be based, as well as possible gaps.

Standardization effort in this area is beneficial for a sound development of the MFSs market as it will:

- facilitate and promote interoperability between the different components or functions developing and/or providing MFSs (see ISO 12812-1:2017, 4.3 and 4.4), including consideration of the impact of new components and/or interfaces created by the introduction of a mobile device into the payment chain;
- build a secure environment so that payers and payees (see ISO/TS 12812-4) and consumers and merchants (this document) can trust MFSs and allow the MFSPs to manage their risks;
- promote consumer protection mechanisms, including fair contract terms, rules on transparency of charges, clarification of liability, and procedures for complaints and dispute resolution;
- enable the consumer to choose from different providers of devices or MFSs, including the possibility to contract with several MFSPs for services on the same device;
- enable the consumer to transfer MFSs from one device to another one (portability);
- promote a consistent consumer experience among various MFSs and MFSPs, with easy-to-use interfaces.

To achieve these objectives, each part of the ISO 12812 will specify the necessary technical mechanisms and, when relevant, refer to existing standards in the area of each part.

The ISO 12812 (all parts) provides a framework flexible enough to accommodate new mobile device technologies, as well as to allow various business models, while enabling compliance with applicable national regulations (e.g. data privacy, protection of personally-identifiable data, consumer protection, anti-money laundering and prevention of financial crime) (see ISO 12812-1:2017, 6.3.4).

It is not the intention of the ISO 12812 (all parts) to duplicate or to seek to replace any existing standard in the area of MFSs (e.g. communication protocols, mobile devices). It is also not the intention of the ISO 12812 (all parts) to drive technology to any specific application or to restrict the development of future technologies or solutions. The ISO 12812 (all parts) does not define messages and data elements to be exchanged at the interfaces between the different components or actors of the system; instead identified messages and data elements are already specified (e.g. ISO 8583, ISO 20022) and are referenced by the standard. Mobile devices have communication capabilities that are sufficient for exchanging transaction data conforming to appropriate ISO standards (e.g. ISO 8583, ISO 20022), as

well as delivering the required transaction authorization information to the POS via other formats (e.g. bar codes, SMS).

The ISO 12812 (all parts) recognizes the need for unbanked or under-banked consumers to access MFSS. It also recognizes that these services may be provided by MFSPs who are not financial institutions according to the applicable regulation(s).

NOTE For this document, the terms and definitions from ISO 12812-1 apply; where a term is abbreviated in this document, the abbreviation is associated with the initial use of the term.

[Figures 7, 8, 9, 10, 11, 12, 13, 14, 15, 16](#) and [18](#) or part thereof are courtesy of the European Payments Council.

Core banking — Mobile financial services —

Part 5: Mobile payments to businesses

1 Scope

This document focuses on mechanisms by which a person (“consumer”, “payer” or “business”) uses a mobile device to initiate a payment to a business entity (“merchant” or “payee”). Such a payment may use the traditional merchant point of interaction (POI) system, where the manner of settling the payment follows well-established merchant services paradigms. Additionally, there are other ways for a consumer to make a payment to a merchant, using the mobile device to initiate, authorize and process transactions outside of traditional payment networks using secure payment instruments. Accordingly, this document supports both “push” and “pull” payments (i.e. transactions that are pushed or transmitted from a mobile device into a POI or pulled or received into a mobile device or POI), which are initiated and/or confirmed by a consumer to purchase goods and or services, including proximate payments, remote secure server payments, as well as mobile payments that leverage other technologies [e.g. cloud computing, quick response (“QR”) codes, biometrics, geo-location and other methods to authenticate and authorize the transaction].

One of the most important aspects of the MFS environment is mobile payments to businesses. There are many ways a consumer, or a business as a consumer, can make a payment to a merchant. ISO 12812 provides a comprehensive standard for using the mechanisms involved in mobilizing the transfer of funds regardless of who is involved in the process. This document is intended to be used by potential implementers of mobile retail payment solutions, while ISO 12812-4 is intended for potential implementers of solutions for mobile payments to persons.

NOTE ISO 12812-1:2017, 5.4 explains the differences in the use of these terms. As such, the ISO 12812 (all parts) seeks to support all possible technologies and is not designed to highlight or endorse specific technologies in the competitive marketplace.

Although this document deals with mobile payments made by a consumer or a business acting as a consumer, which transactions are subject to a variety of consumer protection requirements, in terms of the relationship to the MFSP, the consumer (or business) is the customer of the MFSP. Nevertheless, this document will use the term “consumer.”

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 12812-1, *Core banking — Mobile financial services — Part 1: General framework*

ISO/TS 12812-2, *Core banking — Mobile financial services — Part 2: Security and data protection for mobile financial services*

ISO/TS 12812-3, *Core banking — Mobile financial services — Part 3: Financial application lifecycle management*

ISO/IEC 18004, *Information technology — Automatic identification and data capture techniques — QR Code 2005 bar code symbology specification*

ISO/IEC 18092, *Information technology — Telecommunications and information exchange between systems — Near Field Communication — Interface and Protocol (NFCIP-1)*

ISO/IEC 21481, *Information technology — Telecommunications and information exchange between systems — Near Field Communication Interface and Protocol -2 (NFCIP-2)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12812-1 apply.

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

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

4 Requirements of a mobile payments-to-businesses system

This clause identifies a set of requirements that are common to the mobilization of any payment, regardless of whether such a transfer of funds represents a payment to a person or to a business, or whether it is a mobile proximate payment or a mobile remote payment. In other words, these requirements apply regardless of the nature of the parties involved in the transaction and whether those parties are physically present at the same or different locations.

NOTE Many of these essential requirements also are contained in ISO/TS 12812-4, although there are nuances in how they operate when the payment is to a person as compared with a payments-to-businesses system, which has its own set of operating rules and technical specifications developed by the MFSP.

4.1 Device, network and application selection requirements

4.1.1 An MFSP shall document its compatibility requirements for each MFS it offers with a mobile device and permits a consumer (i.e. payer) to select a compatible mobile device and compatible MFS application(s) for his/her use.

4.1.2 To the extent that an MFS imposes specific requirements on a mobile network operator (MNO), the MFSP shall document those requirements and determine which MNOs support the MFS. An MFSP shall permit a consumer to select an MNO that supports the required mobile communications services for the MFS.

4.1.3 An MFSP shall permit a consumer to select or pre-configure (e.g. for low value transactions) the appropriate mobile application(s) and/or payment instrument(s), including a mobile wallet, for handling any particular mobile payment transaction(s).

4.1.4 An MFSP shall ensure that when a mobile wallet is used for mobile payments to a business, it shall be capable of providing, at a minimum, the following functionality:

- an interface to register personal and payment instruments data (on the mobile device);
- a data repository to store the data (on the mobile device or a secured server);
- an interface allowing the consumer to select the payment instrument;
- an interface allowing the consumer to use the selected payment instrument (can be one interface managing all payment means or different interfaces for different means);
- an interface for managing and updating stored data (e.g. update, cancellation).