

Electronic Funds Transfer at Point Of Sale (EFT-POS)

Conceptual framework

Part 1. Guide to roles, entities and relationships

Committees responsible for this Draft for Development

The preparation of this Draft for Development was entrusted by the Information Systems Technology Standards Policy Committee (IST/-) to Technical Committee IST/17, upon which the following bodies were represented:

- Ailec Associates
- APACS (Barclays Bank)
- APACS (Girobank)
- APACS (Midland Bank)
- APACS (Nat West Bank)
- Association for Payment Clearing Services (APACS)
- BT Laboratories
- Cellnet
- Consumer Policy Committee of BSI
- EDS (Scicon Ltd.)
- Electricity Association
- GEC Card Technology
- HMSO
- Rochford Thompson Equipment
- Thorn EMI Electronics
- Vodafone Ltd.
- Westinghouse Cubic Ltd.
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Foreword

This Draft for Development was prepared by the BSI Technical Committee on EFT-POS: IST/30, under the direction of the Information Systems Technology Standards Policy Committee (formerly the Office and Information Standards Committee).

The Committee (then OIS/30) was set up in June 1987 in order to progress a comprehensive programme of standards work to support the EFT-POS application. It was a multi-disciplinary group with membership drawn from retailers, suppliers, financial institutions, government, information technology (IT) test facilities, software houses, and consumers.

OIS/30 was established as a separate Technical Committee to ensure that EFT-POS standards work was not split between several groups who would assign different priorities to separate parts of an overall EFT-POS application.

It is believed that the harmonization of standards will enable EFT-POS to develop in a coherent manner, taking into account the interests of all parties within a framework of secure financial integrity.

A dual approach was adopted to the development of EFT-POS standards. One strand was the drafting of detailed specifications. These were based heavily on existing commercial practice and were aimed directly at the procurement of interworking EFT-POS system components in the UK. The second strand was the development of a basis for current and future EFT-POS standardization in the UK and internationally and has resulted in this Draft for Development.

The work programme of IST/30 is now largely complete and responsibility for EFT-POS standards has passed to IST/17, which has responsibility (among others) for UK participation in, and action on the results from, CEN TC 224, the European standards committee for EFT-POS.

Terminology and conventions are based on the relevant standards of ISO/TC 68, Banking and Related Financial Services and ISO/IEC JTC 1, Information Technology.

This publication is not to be regarded as a British Standard.

The two Parts are being issued in the Draft for Development series of publications and are of a provisional nature because they aim, as described, to provide a methodology, framework and basis within developing EFT-POS facilities can be coordinated. They should be applied on this provisional basis, so that information and experience of their practical application may be obtained.

A review of this Draft for Development will be carried out not later than 2 years after its publication. Notification of the start of the review period, with a request for the submission of comments from users of this Draft for Development, will be made in an announcement in the appropriate issue of *BSI News*.

According to the replies received, the responsible BSI Committee will judge whether the Draft for Development can be converted into a British Standard or what other action should be taken.

Observations which it is felt should receive attention before the official call for comments will be welcomed.

These should be sent to the Secretary of BSI Technical Committee IST/17 at 389 Chiswick High Road, London, W4 4AL.

Guide

Introduction

The purpose of this Draft for Development, which is published in two Parts, is to provide a common framework for the coordination of standards development for EFT-POS, and to provide a common reference for maintaining consistency between the standards developed for different applications of EFT-POS. This Draft for Development does not specify how to implement EFT-POS, but provides a framework with sufficient flexibility to accommodate advances in technology and commercial developments.

The objectives of this Draft for Development are as follows.

- a) To provide a methodology and terminology which allows EFT-POS requirements to be stated in a clear and unambiguous fashion.
- b) To provide a framework within which specific EFT-POS standards can be built and the relationships between those standards can be defined to ensure integrity of their combined operation.
- c) To provide a coordinated basis for essential areas of EFT-POS standardization, such as data flow, data elements and messages.

The two Parts of the Draft for Development describe the conceptual framework for Electronic Funds Transfer at Point of Sale (EFT-POS). EFT-POS is a card-based system which enables customers to make payments for goods and services, either over the counter, or at unattended ticketing or vending machines and, in due course, from the home. This concept is taken to include refunds. The withdrawal of cash is taken as being part of goods and services for the purposes of this Draft for Development.

EFT-POS is therefore initiated by an agreement between the cardholder and acceptor to a transaction involving the transfer of goods and services. The data relating to the transaction is captured at the point of sale and the EFT-POS process results in changes, reflecting the value of the transaction, to the balances on the accounts of the cardholder and acceptor. The transfer of funds and supply of goods and services which follow the balance changes are outside the scope of this Draft for Development.

This Part of DD 219 defines the entities, roles and facilities required to support EFT-POS and establishes the associated data elements. It provides an overview and is intended to be read by all those concerned with EFT-POS systems, whether of a technical or commercial background. Part 2 of DD 219 gives guidance on how to describe specific EFT-POS systems, in terms of the entities,

roles and facilities that comprise them, together with the messages required for them to operate. It is a more detailed document primarily intended for a more specialized audience.

This Draft for Development makes no assumptions about the particular form of commercial and contractual agreements made to supply EFT-POS. The commercial relationships may be direct or established through agencies.

Any EFT-POS standard should support technical inter-operability, whilst allowing for differing technology, style of implementation or configuration. This Draft for Development is intended to ensure that any specific EFT-POS standard can conform to these requirements, to facilitate national and international inter-operability. This Draft for Development is not an implementation specification.

The development of the two Parts of DD 219 can be summarized as follows.

- 1) A descriptive approach was established that clearly distinguishes between the principal entities participating in any card-based payment system.
- 2) The commercial relationships between principal entities were analysed in terms of the roles, relationships and links which can be established.
- 3) A set of facilities was defined which support the EFT-POS roles.
- 4) The information was identified which is required by the principal entities to support the facilities.

1 Scope

This Part of DD 219 gives guidance on, and establishes a framework for, coordinating the design and development of EFT-POS message standards. It defines the entities participating in EFT-POS and their relationships in terms of roles and the facilities needed to implement them. This general approach means that although this Part of DD 219 has been designed to assist in the development of electronic message specifications for EFT-POS, its scope includes the use of paper vouchers to supply the service. In addition it addresses the issues of control, audit and security as they affect EFT-POS systems.

The Draft for Development is concerned primarily with the set of messages emanating from the point of sale, which are needed to effect the change in account balances. Consequently, it does not include or restrict the choice of standards for:

- cards, whether based on magnetic stripe, integrated circuit or other technology.

- message syntax, whether based on BS EN 28583, BS EN 29735 or other.
- communication services, whether Open Systems Interconnection (OSI) profiles or not.
- terminal standards, for connected or isolated operation.

2 References

2.1 Normative references

This Part of DD 219 incorporates, by dated or undated reference, provisions from other publications. These normative references are made at the appropriate places in the text and the cited publications are listed on the inside back cover. For dated references, only the edition cited applies; any subsequent amendments to or revisions of the cited publication apply to this Part of DD 219 only when incorporated in the reference by amendment or revision. For undated references, the latest edition of the cited publication applies, together with any amendments.

2.2 Informative references

This Part of DD 219 refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this Draft for Development are listed on the inside back cover, but reference should be made to the latest editions.

3 Definitions

For the purposes of this Part of DD 219 the following definitions apply.

3.1 acceptor

A principal entity accepting the card and presenting transaction data to an acquirer.

3.2 acceptor agreement

An agreement between one acceptor and one acquirer.

3.3 acceptor facilities

Facilities which enable a card acceptor to manage that part of its business effected by using an EFT-POS system.

3.4 acceptor-authorization facility

A facility whereby an anticipated acceptor financial transaction is approved.

3.5 acceptor-authorization-acceptor-debit

A facility whereby an acquirer guarantees to provide funds for an anticipated financial transaction which will debit an acceptors' account and credit a cardholder's account, resulting in a transfer of funds.

3.6 acceptor-financial facility

A facility enabling an acceptor to transfer funds from an account under his control.

3.7 acquirer

A principal entity which acquires from the acceptor the data relating to the transaction and submits it to the card issuer(s), either directly or via an interchange system.

NOTE. An acquirer frequently takes on the responsibility of guaranteeing funds to the acceptor.

3.8 auditability

The characteristics for assessing the design, implementation and effectiveness of controls laid down for any card scheme.

3.9 card

A card identifying its bearer and issuer, as defined in 3.1.8 of BS 7788 : 1995.

3.10 cardholder

A principal entity and a person associated with the primary account number requesting the transaction from the acceptor.

3.11 cardholder agreement

An agreement between one cardholder and one card issuer.

3.12 cardholder facilities

Facilities which directly provide EFT-POS service to a cardholder and which will utilize the cardholder's primary account number.

3.13 cardholder-authorization facility

A facility whereby a financial institution commits (or otherwise) to guarantee funds for an anticipated financial transaction.

3.14 cardholder-authorization-cardholder-debit

Facility whereby a card issuer (or agent thereof) guarantees to provide funds for an anticipated financial transaction which will debit a cardholder's account and credit an acceptor's account.

3.15 cardholder-financial facility

A facility enabling payment instructions to flow between entities resulting in changes of balance of funds and possibly including the movement of cash or other paper instruments across the boundary of the EFT-POS system.

3.16 cardholder-financial-cardholder-credit

A facility enabling funds to flow to a cardholder account.

3.17 cardholder-financial-cardholder-debit

A facility enabling funds to flow from a cardholder account.