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Financial services — Key-management-related data element — Application and usage of ISO 8583-1 data elements for encryption

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Foreword

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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).

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

For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 68, *Financial services*, Subcommittee SC 2, *Financial services, security*.

This third edition cancels and replaces the second edition (ISO 13492:2007), which has been technically revised.

The main changes compared to the previous edition are as follows:

— introduction of the support of the AES encryption algorithm, resulting in a complete restructuring and editing of the previous edition.

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 describes the structure and contents of a data element related to key management which can be conveyed in electronically transmitted messages within the financial services environment to support the secure management of cryptographic keys, where the financial services environment involves the communications between a card-accepting device and an acquirer, and between an acquirer and a card issuer. Key management of keys used in an Integrated Circuit Card (ICC) and the related data elements are not covered in this document. Key management procedures for the secure management of the cryptographic keys within the financial services environment are described in ISO 11568. Security-related data, such as Personal Identification Number (PIN) data and MACs, are described in ISO 9564 and ISO 16609, respectively.

This document provides key management information, including that related to the use and application of ISO 8583-1, i.e. the interchange messages used in processing card transactions, which are referenced in ISO 8583-1. However, the data elements assigned in ISO 8583-1 were built to accommodate earlier encryption technologies (e.g. data encryption standard, triple data encryption standard) and they are not long enough to accommodate the advanced encryption standard (AES) and/or other encryption methods for encrypting sensitive payment card data, which require longer data fields. Accordingly, in order to facilitate the use of AES for key management purposes related to ISO 8583-1, it has been proposed to expand the relevant data element fields in ISO 8583-1.

Although ISO 8583-1 is the most recent standard, in practice, many card processing parties still use older documents, either ISO 8583:1987 or ISO 8583:1993. Both of these documents have been withdrawn and replaced by the ISO 8583 series.

This document accommodates data encryption algorithm (DEA), triple data encryption algorithm (TDEA) and AES as encryption technologies. For DEA and TDEA, fields 52, 53 and 96 are used. For AES, depending on the key management and data encryption processes, fields 110, 111 or 50 can be used.

This document provides compatibility with the existing ISO standard on bank card originated messages (ISO 8583-1).