Australian Standard™

Electronic funds transfer—Requirements for interfaces

Part 6.5.1: Key management—TCU initialization—Principles

Standards Australia

This Australian Standard was prepared by Committee IT/5, Financial Transaction Systems. It was approved on behalf of the Council of Standards Australia on 15 March 2000 and published on 13 April 2000.

The following interests are represented on Committee IT/5:

Australian Association of Permanent Building Societies

Australian Bankers Association

Australian Electrical and Electronic Manufacturers Association

Australian Institute of Petroleum

Australian Retailers Association

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Part 6.5.1: Key management—TCU initialization—Principles

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PREFACE

This Standard was prepared by the Standards Australia Committee IT/5, Financial Transaction Systems.

The AS 2805 series of Standards is as follows:

AS		
2805	Electronic funds transfer—Requirements for interfaces	
2805.1	Part 1:	Communications
2805.2	Part 2:	Message structure, format and content
2805.3	Part 3:	PIN management and security
2805.4	Part 4:	Message authentication
2805.5.1	Part 5.1:	Ciphers—Data encipherment algorithm 1 (DEA 1)
2805.5.2	Part 5.2:	Ciphers—Modes of operation for an n-bit block cipher algorithm
2805.5.3	Part 5.3:	Ciphers—Data encipherment algorithm 2 (DEA 2)
2805.5.4	Part 5.4:	Ciphers—Data encipherment algorithm 3 (DEA 3) and related techniques
2805.6.1	Part 6.1:	Key management—Principles
2805.6.2	Part 6.2:	Key management—Transaction keys
2805.6.3	Part 6.3:	Key management—Session keys—Node to node
2805.6.4	Part 6.4:	Key management—Session keys—Terminal to acquirer
2805.6.5.1	Part 6.5.1:	Key management—TCU initialization—Principles (this Standard)
2805.6.5.2	Part 6.5.2:	Key management—TCU initialization—Symmetric
2805.6.5.3	Part 6.5.3:	Key management—TCU initialization—Asymmetric
2805.9	Part 9:	Privacy of communications
2805.10	Part 10:	File transfer integrity validation
2805.11	Part 11:	Card parameter table
2805.12.1	Part 12.1:	Message content—Structure and format
2805.12.2	Part 12.2:	Message content—Codes
2805.12.3	Part 12.3:	Message content—Maintenance of codes
2805.13.1	Part 13.1:	Secure hash functions—General
2805.13.2	Part 13.2:	Secure hash functions—MD5
2805.13.3	Part 13.3:	Secure hash functions—SHA-1
2805.14.1	Part 14.1:	Secure cryptographic devices (retail)—Concepts, requirements and evaluation methods

The following Handbooks relate to AS 2805 series of Standards:

HB 127 Electronic funds transfer—Implementing message content Standards—Conversion Handbook (changing from AS 2805.2 to AS 2805.12 series)

HB 128 Electronic funds transfer—Implementing message content Standards—Terminal Handbook

HB 129 Electronic funds transfer—Implementing message content Standards—Interchange Handbook

Part of the AS 2805 series that is in the course of preparation is as follows:

Message authentication using DEA 3

In the AS 2805 series of Standards, the definitions of words and phrases used are specific to the Part in which they appear.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

CONTENTS

FOREWORD

Keys must be protected. Maintaining the secrecy of cryptographic keys is of the utmost importance because the compromise of any key allows the compromise of all data ever encrypted under it. The generation, distribution, and protection of cryptographic keys is called `key management'.

Key management is a critical part of application specifications. In the AS 2805 series, the intent of Part 6.5.1 (this Standard) is to define the principles to be observed for terminal cryptographic unit (TCU) initialization. Part 6.5.2 describes a TCU initialization scheme which utilizes a symmetric cipher, whereas Part 6.5.3 describes a scheme which incorporates the use of an asymmetric cipher.

Choice of an appropriate implementation will be governed by the nature of the interface application and the constraints of maintaining the security principles within it.

STANDARDS AUSTRALIA

Australian Standard
Electronic funds transfer—Requirements for interfaces

Part 6.5.1: Key management—TCU initialization—Principles

1 SCOPE

This Standard specifies principles for the secure initialization of a terminal cryptographic unit (TCU).

Within the context of this Standard, the term initialization refers only to the initial establishment of a cryptographic keying relationship between TCU and acquirer.

This Standard does not cover—

(a) techniques for the secure entry of data;

(b) techniques for the conveyance of secret data; or

(c) procedural issues relating to the physical location of initialization.

NOTE: Principles concerning key management and physical security are dealt with in AS 2805.6.1.

2 APPLICATION

This Standard may be adopted in all situations where secure TCU initialization is required.

This Standard can be used in conjunction with the key management systems described in AS 2805.6.2 and AS 2805.6.4.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS		
2805	Electronic funds transfer—Requirements for interfaces	
2805.2	Part 2:	Message structure, format and content
2805.4	Part 4:	Message authentication
2805.5.1	Part 5.1:	Ciphers—Data encipherment algorithm 1 (DEA 1)
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2805.6.4	Part 6.4:	Key management—Session keys—Terminal to acquirer
2805.11	Part 11:	Card parameter table
2805.12.1	Part 12.1:	Message content—Structure and format