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American National Standard
for Financial Services

X9.104-1:2004 (R2011)

Financial transaction card originated messages – Card acceptor to acquiring host messages

Part 1: Messages, data elements and code values

Accredited Standards Committee X9, Incorporated
Financial Industry Standards

Date Approved: September 14, 2004

Reaffirmed: January 4, 2011

American National Standards Institute

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Contents

Page

Foreword 7

Introduction 9

1 Scope 15

2 Normative references 15

3 Terms and definitions 16

4 Symbols and abbreviated terms 17

5 Environment 17
5.1 General 17
5.2 Transaction processing and transaction flow 18
5.3 Administrative processing 19
5.4 Multiple currency processing 20
5.5 Message processing 20
5.5.1 Communications infrastructure 20
5.5.2 Message parsing 21
5.5.3 Message repeats 21
5.6 Message processing rules 21
5.6.1 Host control mode 21
5.6.2 Terminal control mode 21
5.6.3 Hybrid control mode 22
5.7 Data element structure 22
5.7.1 Data element types 22
5.7.2 Primitive data elements 22
5.7.3 Constructed data element 22
5.7.4 Composite data elements 23

6 Data elements 25
6.1 General requirements for data elements 25
6.2 Data element representation 28
6.3 Data elements with pre-defined values 28
6.4 Specific requirements for ISO 8583 data elements 28
6.4.1 Additional data private (message control data) (bit 48) 28
6.4.2 Verification data (bit 49) 30
6.4.3 Data record (bit 72) 31
6.4.4 Account identification 1 (bit 102) 32
6.4.5 Account identification 2 (bit 103) 32
6.4.6 Electronic commerce data (bit 34) 32
6.5 Specific requirements for national use data elements 32
6.5.1 Account bar code data (bit 60) 32
6.6 Specific requirements for private use data elements 32
6.6.1 Product data (bit 63) 32
6.6.2 Proprietary reconciliation totals (bit 123) 33

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6.7 Cardholder account identification 33
6.8 Card acceptor identification 34
6.9 Institution identifiers 34

7 Messages and transactions 34
7.1 Mandatory and conditional data elements 34
7.2 Message types and structure 35

8 Message class definitions 36
8.1 General 36
8.2 Authorization message class 36
8.2.1 Authorization description 36
8.2.2 Authorization message rules 37
8.2.3 Authorization request message (100) 37
8.2.4 Authorization request response message (110) 38
8.2.5 Authorization advice (120) and advice response (130) messages 39
8.2.6 Authorization notification (140) and notification acknowledgement (150) messages 39
8.3 Verification messages 39
8.3.1 Verification description 39
8.3.2 Verification message rules 40
8.3.3 Verification request message (104) 40
8.3.4 Verification request response message (114) 40
8.4 Financial presentment message class 41
8.4.1 Financial presentment description 41
8.4.2 Financial presentment message rules 41
8.4.3 Financial presentment request message (200) 41
8.4.4 Financial presentment request response message (210) 43
8.4.5 Financial presentment advice (220) and notification (240) messages 44
8.4.6 Financial presentment advice response message (230) 45
8.5 Financial accumulation presentment 46
8.6 File action message class 46
8.6.1 File action rules 46
8.6.2 File action request (304) and advice (324) messages 46
8.6.3 File action request response (314) and advice response (334) messages 47
8.7 Reversal message class 47
8.7.1 Reversal message rules 48
8.7.2 Reversal advice message (420) 48
8.7.3 Reversal advice response message (430) 48
8.8 Chargeback message class 49
8.9 Reconciliation message class 49
8.9.1 Reconciliation message rules 49
8.9.2 Reconciliation request (504) or advice (524) message 50
8.9.3 Reconciliation request response (514) and advice response (534) message 51
8.10 Administrative message class 51
8.10.1 Administrative message rules 52
8.10.2 Administrative request (604) and advice (624) message 52
8.10.3 Administrative request response (614) and advice response (634) message 52
8.11 Retrieval and retrieval fulfilment 53
8.12 Error messages 53
8.12.1 Error message rules 53
8.12.2 Error notification (644) message 53
8.13 Fee collection message class 54

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8.14 Network management message class 54
8.14.1 Network management message rules 54
8.14.2 Network management request (804) and advice (824) messages 54
8.14.3 Network management request response (814) and advice response (834) messages 55
8.15 Key management 56
8.16 Batch transfer 56
8.17 File transfer 56

9 Maintenance 56

Annex A (normative) Private values of data elements 57
A.1 General 57
A.2 Private values for function code (bit 24) 57
A.3 Private values for action code (bit 39) 57

Annex B (normative) National use values of ISO 8583 data elements 58
B.1 General 58
B.2 National values for Message reason code (bit 25) 58
B.3 National use values within Message control data (bit 48) 58
B.3.1 Result of previous attempt code 58
B.3.2 Host connected code 59
B.3.3 Multiple transaction response indicator 60
B.4 National tag assignments 60

Annex C (normative) Data element usage in messages 61
C.1 General 61

Annex D (informative) Migrating from ASC-TG23 -Part 1: 1999 79
D.1 General 79
D.2 Changes based on the update of ISO 8583 79
D.2.1 Code Values 79
D.2.2 Data elements 79
D.2.3 Messages 81
D.2.4 New features 82
D.3 Other differences between X9.104-1 and TG-23 82
D.3.1 Code values 82
D.3.2 Data elements 82
D.3.3 Messages 84
D.3.4 Annexes 84

Bibliography 85

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Figures

Figure 1 — Transaction processing components **18**

Figure 2 — Administrative processing components **20**

Figure 3 — Structure of a composite data element **23**

Figure 4 — Dataset identifiers 01-70 ..... **24**

Figure 5 — Dataset identifiers 71-FE **24**

Figure 6 — Dataset bit map examples **25**

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Tables

Table 1 — Data element directory 26
Table 2 — Message control data data elements 29
Table 3 — Verification request data 30
Table 4 — Data record datasets 31
Table 5 — POS configuration request data 31
Table 6 — POS configuration response data 31
Table 7 — Data element usage classification 35
Table 8 — Allocated message types 35
Table 9 — Authorization request message (100) 37
Table 10 — Authorization request response message (110) 38
Table 11 — Verification request message (104) 40
Table 12 — Verification request response message (114) 40
Table 13 — Financial presentment request message (200) 41
Table 14 — Financial presentment request response message (210) 43
Table 15 — Financial presentment advice (220) and notification (240) messages 44
Table 16 — Financial presentment advice response message (230) 45
Table 17 — File action request (304) and advice (324) message 46
Table 18 — File action request response (314) and advice response (334) 47
Table 19 — Reversal advice message (420) 48
Table 20 — Reversal advice response message (430) 49
Table 21 — Reconciliation request (504) or advice (524) message 50
Table 22 — Reconciliation request response (514) and advice response (534) message 51

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Table 23 — Administrative request (604) and advice (624) message 52

Table 24 — Administrative request response (614) and advice response (634) message 52

Table 25 — Error notification (644) message 53

Table 26 — Network management request (804) and advice (824) message 54

Table 27 — Network management request response (814) and advice response (834) messages 55

Table 28 — Function code 57

Table 29 — Action code private values 57

Table B.1 — Message reason codes 58

Table B.2 — Result of previous attempt codes 58

Table B.3 — Host connected codes 59

Table B.4 — Multiple transaction response indicator 60

Table B.5 —Assigned tag values 60

Table C.1 — ISO 8583 data elements by bit map location 62

Table D.1 — Comparison of Message control data (bit 48) 82

Table D.2 — Mapping of Fleet card data to TG23 bit 63 - Product code 83

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Foreword

Business practices have changed greatly with the introduction of computer-based technologies. The substitution of electronic financial transactions at the point of sale for their paper-based predecessors has reduced costs and improved efficiency. These practices have had a particularly significant impact on the operation of retail businesses. Many stores are now dependent on the use of this technology in their daily operations, which applies to credit/debit cards, various proprietary cards, including for use in specialty markets, and for emerging payment methods.

This part of X9.104 provides a generic basis for the implementation of a common message exchange infrastructure at the point of sale for use by various verticals within the retail community and their component business operations. Such an infrastructure provides processing efficiencies, a consistent interface with existing host-to-host messaging, and, eventually, lower implementation costs. The infrastructure also provides a high degree of commonality in emerging point-of-sale systems that reduces exceptions and leads to a lesser number of chargebacks.

ANSI X9.104 consists of the following parts, under the general title *Financial transaction messages - Card acceptor to acquirer messages:*

- Part 1: Messages, data elements and code values

- Part 2: Convenience store and petroleum marketing industry

Subsequent parts may be published to define card acceptor to acquirer messages for sectors within the retail industry.

While the techniques specified in this part of X9.104 are designed to provide common payment system messages between the retail location and the acquirer processor, use of the Standard does not guarantee that a particular implementation provides interoperability. It is the responsibility of the individual implementers to put an overall process in place with the necessary controls to ensure that the process is properly implemented. Furthermore, the controls shall include the application of appropriate audit tests in order to verify compliance with this part of X9.104.

To aid clarity the following conventions are followed within this part of X9.104.

- Data element names have the first letter capitalized
- Data element names are shown in italics except when used in tables or figures.
- Message class names are shown capitalized when the context refer to their use in messages or transactions.

Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

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Published by

Accredited Standards Committee X9, Incorporated
Financial Industry Standards
1212 West Street, Suite 200
Annapolis, MD 21401 USA
X9 Online http://www.x9.org

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Introduction

The National Association of Convenience Stores (NACS) convened its Payment Systems Committee as part of an overall Technology Standards Project in November 1995. Among the first priorities that Committee established was the belief that the industry would be best served if a common format for all payment messages could be adopted. There was strong sentiment for a possible standard for messages flowing from the card acceptor to the ensuing host processing system. The NACS Committee determined that, since existing standards did not serve this purpose, a set of guidelines should be written based on the international host-to-host standard, ISO 8583: 1993, to ensure that the convenience store and petroleum marketing industry would be able to adopt a common format for these messages. *ASC X9-TG23-1999 Implementation guide for ISO 8583-based card acceptor to host messages – Part 1: Convenience store and petroleum marketing industry* was produced to address this need.

In 2003, *ISO 8583-1: Financial transaction card originated messages – Interchange message specifications – Part 1: Messages, data elements and code values* was published. To remain aligned with ISO 8583, *ANS X9.104* has been created. It replaces in whole X9-TG23-1999 and incorporates the updated ISO 8583-1 to create a common format for payment messages flowing from the card acceptor to the acquirer. During the discussions leading up to this project, it was agreed that both a generic and an industry specific standard should be developed. Accordingly, Part 1 of X9.104 defines the messages, data elements and code values generally used in the retail financial transaction processing environment. Part 2 of X9.104 defines specific examples of messages used in the convenience store and petroleum marketing industry. Subsequent parts may be published to define card acceptor–to-acquirer messages for other retail industries.

The data elements in the host-to-host message will conform to the format agreed to by the acquiring host and the receiving host. For messages conforming to ISO 8583, the acquiring host will supply the data elements as required by that standard. These data elements may be present in the message from the card acceptor or may be supplied by the acquiring host.

The use of the word "Card" in this part of X9.104 refers to any device that can initiate a purchase transaction (e.g., plastic magnetic stripe card, plastic card or any device embedded with a smart chip, RFID chip etc.).

NOTE: The user's attention is called to the possibility that compliance with this part of X9.104 may require use of an invention covered by patent rights.

By publication of this part of X9.104, no position is taken with respect to the validity of any such claim or of any patent rights in connection therewith. As of the date of publication, no patent holder had identified any such patent, nor filed the required statement of willingness to grant a license under these rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a license. Further details on the patent process and related requirements may be obtained from the standards developer.

Suggestions for the improvement or revision of this part of X9.104 are welcome. They should be sent to the X9 Committee Secretariat, Accredited Standards Committee X9, Inc., Financial Industry Standards, 1212 West Street, Annapolis, MD 21401 USA.

This part of X9.104 was processed and approved for submittal to ANSI by the Accredited Standards Committee on Financial Services, X9. Committee approval of the Standard does not necessarily imply that all the committee members voted for its approval.

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publication, the X9 Secretariat received an original signed release permitting such company names to appear in print.)

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This document cancels and replaces *ASC X9-TG-23-Part 1-1999* in whole. A summary of the most significant changes between TG-23 and X9.104 is provided in Annex D.

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Financial transaction card originated messages – Card acceptor to acquiring host messages Part 1: Messages, data elements and code values

1 Scope

This part of X9.104 defines a common interface for the exchange of information between point of sale systems or terminal devices located in a retail establishment and the acquiring host transaction processing system(s). This part of X9.104 is applicable to all aspects of payment processing required by these retail facilities, including the reporting of specific products that are part of a purchase. The standard defines a sufficient number of message types and data elements to facilitate the exchange of all necessary information related to: (1) payment transactions originated by point of sale systems or terminal devices, and (2) automated control of the systems and devices.

This part of X9.104 identifies the expected capabilities of the processing environment in exchanges between the card acceptor POS system/device (terminal) and the acquiring host and subsequent processing as defined in ISO 8583 between the acquiring host and the issuing host. These capabilities are required to properly process the messages defined in this part of X9.104.

ISO 8583 defines the types of messages, the flow of each type of message and the basic content of each message. The sequence of message exchanges is described for all classes of messages. This part of X9.104 provides the definition of additional message content for control of messages between the card acceptor and the acquiring host and for information required by the retail community in general.

This part of X9.104 defines the specific use and additional values of many data elements in the message formats contained in ISO 8583. It also defines changes to ISO 8583 to accommodate the card acceptor to acquiring host environment. Certain auxiliary functions, such as the handling of chargebacks and multiple currency settlement actions, are supported by ISO 8583, but are not included in this part of X9.104. (See 5, Environment).

Communication-related characteristics, such as protocol, header and trailer information and transmission control, are outside the scope of this part of X9.104. Security techniques that may be utilized for the protection of data contained in the messages are also outside the scope of this part of X9.104.

2 Normative references

The following referenced documents are indispensable for the application 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 639, *Codes for the representations of the names of languages*

ISO 18245, *Merchant category codes*

ISO 8583:2003 (all parts), *Financial transaction card originated messages – Interchange message specifications*

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