



American National Standard
for Financial Services

X9.131–2015

Financial transaction messages —
Electronic Benefits Transfer (EBT) —
WIC retailer interface



Developed by
Accredited Standards Committee X9, Incorporated
Financial Industry Standards

Date Approved: March 24, 2015

American National Standards Institute

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Contents

	Page
Foreword	vi
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Abbreviated terms and symbols	3
4.1 Abbreviated terms	3
4.2 IDL symbols	4
5 Data elements	5
5.1 Data element requirements	9
5.1.1 WIC item structure (strctWICitems)	9
6 Functions	10
6.1 Function naming	10
6.2 Function description	11
6.3 Pseudo IDL definition	11
6.4 Pseudo IDL mapping	12
7 WIC modules	13
7.1 WIC service provider module (WSPM)	13
7.2 Reader driver module (RDM)	13
7.3 Cryptographic services module (CSM)	14
7.4 Access control module (ACM)	14
8 WIC interfaces	14
8.1 WIC service provider interface (WSPI)	14
8.1.1 WSPI function flow	15
8.1.2 WSPI card control functions	16
8.1.3 WIC user data functions	19
8.2 WIC reader driver interface (RDI)	23
8.2.1 RDI function flow	23
8.2.2 RDI functions	25
8.3 Cryptographic services interface (CSI)	28
8.3.1 CSI function flow	28
8.3.2 CSI functions	29
8.4 WIC services manager interface (WSMI)	31
8.4.1 WSMI function flow	31
8.4.2 WSMI functions	31
8.5 Other components of WIC services	32
Annex A (normative) WIC State Agencies and identifiers	33
A.1 General	33
A.2 WIC identifier usage	33
A.3 WIC State Agency identifiers	33

ANS X9.131 – 2015

Annex B	(informative) Architectural considerations	37
B.1	General	37
Annex C	(informative) WIC messaging protocol (WMP).....	39
C.1	General	39
C.2	Generic serial communication	39
C.2.1	Serial communication rules.....	39
C.3	Setup processing	40
C.3.1	ECR establish active WSPM request (_00)	40
C.3.2	CAD validate active WSPMs response (_01)	40
C.4	Transaction processing	41
C.4.1	Get PAN (_10 request, _11 response)	41
C.4.2	Read balance (_20 request, _21 response).....	42
C.4.3	Debit balance (_30 request, _31 response).....	42
C.4.4	Block card (_40 request, _41 response).....	43
C.4.5	End transaction (_50 request, _51 response).....	44
C.4.6	Authenticate user (_60 request, _61 response).....	45
C.4.7	Shutdown processing (_70 request, _71 response)	45
C.4.8	WIC card removal (_80 request, _81 response).....	45
C.4.9	WIC card balance restore (_90 request, _91 response).....	46
C.5	Longitudinal redundancy check (LRC) character	46
C.6	Message flow diagram	46
C.7	Balance restore processing considerations.....	49
Annex D	(informative) Security policy recommendations	50
D.1	General	50
D.2	Risks	50
D.3	Security requirements.....	51
D.4	Entity responsibility	52
D.4.1	WIC State Agency entity	52
D.4.2	Card acceptor (retail store) entity.....	53
D.5	Minimum recommended guidelines	53
D.6	Liability	54
Annex E	(normative) WIC EBT code values	55
E.1	General	55
E.2	WIC service provider interface (WSPI) return codes	55
E.3	Processing mode.....	57
E.4	Type of authentication	57
E.5	VOC schema identifier	58
E.6	Security type	58
E.7	WIC EBA schema identifier	58
E.8	WPM message identifier	59
E.9	Result codes	60
Annex F	(normative) Application discovery and selection.....	61
F.1	General	61
F.2	File system cards	61
F.3	VM cards.....	62
F.4	Access procedures	62
F.5	Discovery method	62
F.5.1	APDU algorithm approach.....	62
F.5.2	APDU WIC State Agency module approach	62

Figures

Figure 1 — Components of WICItemStructure9
Figure 2 — structWICItems10
Figure 3 — Structure of function name11

Figure A.1 — Primary account number structure33
Figure B.1 — Example of retailer application with WSPI on terminal37
Figure B.2 — Example of retailer application with WSPI on ECR38
Figure C.1 — Post-swipe smart card access sequence47

Tables

Table 1 — Description of IDL symbols4
Table 2 — Data element directory5
Table 3 — Mapping pseudo IDL to C language12
Table 4 — Mapping pseudo IDL to Java language12
Table 5 — Mapping pseudo IDL to C# language13
Table 6 — Example of function flow using the WSPM.....15
Table 7 — Example of transaction flow using the RDM24
Table 8 — Example of transaction flow using the CSM.....29

Table A.1 — WIC State Agencies34
Table A.1 WIC State Agencies, continued.....35

Table E.1 — WSPI return codes55
Table E.2 — Processing modes57
Table E.3 — Type of authentication57
Table E.4 — VOC schema identifier values58
Table E.5 — Security type code58
Table E.6 — WIC EBA schema identifier values59
Table E.7 — WIC message identifier values59
Table E.8 — Result code values60

ANS X9.131 – 2015

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Published by

Accredited Standards Committee X9, Incorporated
Financial Industry Standards
P.O. Box 4035
Annapolis, MD 21403 USA
X9 Online <http://www.x9.org>

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Introduction

This standard defines a common interface for the food retailer systems that accept smart cards as the benefit delivery mechanism for participants in the Special Supplemental Nutrition Program for Women, Infants and Children, commonly referred to as the WIC Program. The interface provides the food retailer card readers and associated payment and electronic cash register systems a means to accept and transact benefits from access devices, such as smart cards, issued by different WIC State Agencies. It does not allow WIC participants to purchase food items in all states, which is the case with Supplemental Nutrition Assistance Program (SNAP) EBT program.

The interface defined in this standard provides for a POS system/device to invoke an action on a smart card where the device and the smart card are independently developed. This standard allows the flexibility to add other applications than WIC to a smart card as well as allows for a WIC EBT application to be detected on an access device issued by some other entity.

A typical configuration for a smart card system consists of a host computer with one or more smart card readers attached via hardware communications ports. Smart cards are inserted into the card readers, and software running on the host computer communicates with these cards using a protocol defined by ISO 7816-4. The ISO standard smart card communications protocol defines Application Protocol Data Units (APDUs) that are exchanged between smart cards and host computers. This APDU based interface is referred to as the card edge, and the two terms are used interchangeably.

Client applications have traditionally been designed to communicate with ISO smart cards using the APDU protocol through low-level software drivers that provide an APDU transport mechanism between the client application and a smart card. Smart card families may implement the APDU protocol in a variety of ways, so client applications must have intimate knowledge of the APDU set of the smart cards they are communicating with. This is generally accomplished by programming a client application to work with a specific card, since it would not be practical to design a client application to accommodate the different APDU sets of a large number of smart card families.

The tight coupling between client applications and smart card APDU sets has several drawbacks for the ISO card technology/s use in WIC, both in WIC-authorized retail stores and in local agencies and clinics. Application programmers must be thoroughly familiar with smart card technology and the complex APDU protocol. If the cards that an application is hard coded to use become commercially unavailable, the application must be redesigned to use different cards. Customers also have less freedom to select different smart card products, since their applications will only work with one or a small number of similar cards.

For national and regional grocers authorized by more than one WIC State Agency, this standard substantially reduces the level of effort (programming) required to integrate WIC functionality within existing store POS system/devices. Retailers authorized to accept WIC for more than one WIC State Agency will be able to program once all core WIC EBT retail system functionality and the smart card to POS system/device interface. It is anticipated that the programming required to accept WIC cards issued by another WIC State Agency(s) will be greatly reduced. This standard, by itself, does not encompass all aspects of the integration. It does not dictate specific hardware or software architecture to the retailer community nor does it restrict the WIC State Agencies to specific WIC EBT schemes on a smart card.

ANS X9.131 – 2015

The source documents for this standard were developed by the Offline WIC EBT Interoperability Specifications workgroup during meetings in Dallas, Texas in 2003 sponsored by the U.S. Department of Agriculture, Food and Nutrition Services, and hosted by the Texas Department of Health, Special Supplemental Nutrition Program for Women, Infants and Children. MAXIMUS Intelligent Technologies Division, in cooperation with Booz Allen Hamilton, consulting firms supporting TDH and USDA/FNS, respectively, facilitated the development of the source document.

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

By publication of this standard, no position is taken with respect to the validity of this claim or of any patent rights in connection therewith. The patent holder has, however, filed a statement of willingness to grant a license under these rights on reasonable and non-discriminatory terms and conditions to applicants desiring to obtain such a license. Details may be obtained from the standards developer.

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Annex A, Annex E and Annex F form an integral part of this standard. Annex B, Annex C and Annex D are for information only.

Financial transaction messages — Electronic Benefits Transfer (EBT) — WIC retailer interface

1 Scope

This standard defines a common set of Application Programming Interface (API) functions to access the WIC benefits on an integrated circuit (smart) card in the retailer environment; a common method (card discovery mechanism) to identify the issuer of the WIC EBT benefits and the WIC EBT scheme present on the smart card and, an interface to the card reader device that transmits and receives data from the WIC EBT smart card. The reference or model implementation provided by the WIC State Agency shall utilize this standard. This standard does not specify the reader driver used by the retailer application but it defines interfaces that may be implemented for the WIC module to access functions of the Reader Driver Module (RDM). The specific requirements of the Reader Driver Interface to the integrated circuit (smart) card are dependent on the card design chosen by the WIC State Agency and may be obtained from them.

The use of pseudo Interface Definition Language (IDL) in this standard allows simpler definition of the API functions and their interface in a language independent manner. This standard does not define how WIC-EBT benefits are arranged on the card, the movement of security data or key management.

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.

NIST IR 6887 *Government Smart Card Interoperability Specification – Version 2.1* (GSC-IS) National Institute of Standards and Technology (NIST), July 16, 2003.

ISO 7372 *Trade data interchange – Trade data elements directory*

ISO/IEC 7812-1:2006 *Identification cards – Identification of issuers – Part 1: Numbering system*

ISO-7816-4:2013 *Identification cards -- Integrated circuit cards -- Part 4: Organization, security and commands for interchange*

ISO ISO/IEC 7816-4:1995/Amd 1:1997 *Secure messaging on the structures of APDU messages*

X9.93-1:2014 *Financial transaction messages - Electronic benefits transfer (EBT) – Part 1: Messages*

X9.93-2:2014 *Financial transaction messages - Electronic benefits transfer (EBT) – Part 2: Files*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in NIST IR 6887 and the following apply.