
**Identification cards — Integrated
circuit cards —**

**Part 6:
Interindustry data elements for
interchange**

Cartes d'identification — Cartes à circuit intégré —

Partie 6: Éléments de données intersectoriels pour les échanges

STANDARDSISO.COM : Click to view the full PDF of ISO/IEC 7816-6:2016

STANDARDSISO.COM : Click to view the full PDF of ISO/IEC 7816-6:2016



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword	iv
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Abbreviated terms and notation	2
5 Maintenance of interindustry data objects	3
6 Specific interindustry data elements	3
6.1 Name of an individual	3
6.2 Proprietary login data	3
6.3 Magnetic stripe data	4
6.4 PIN usage policy	4
6.5 Login template	4
6.6 Qualified name template	5
6.7 Cardholder image template	6
6.8 Application image template	6
6.9 Display control template	6
7 Identification of integrated circuit manufacturers	6
7.1 General	6
7.2 Identifier	7
7.3 Rules for assignment	7
8 Interchange profile	7
9 Interindustry data elements in alphabetic order	8
10 Interindustry tags in numeric order	15
11 Interindustry templates	24
11.1 Interindustry data objects within interindustry templates	24
11.2 Interindustry templates defining a context	26
Annex A (normative) Application for integrated circuit manufacturers number	27
Bibliography	28

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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 document 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, SC 17, *Cards and personal identification*.

This third edition cancels and replaces the second edition (ISO/IEC 7816-6:2004), which has been technically revised. It also incorporates the Technical Corrigendum ISO/IEC 7816-6:2004/Cor 1:2006.

ISO/IEC 7816 consists of the following parts, under the general title *Identification cards — Integrated circuit cards*:

- *Part 1: Cards with contacts — Physical characteristics*
- *Part 2: Cards with contacts — Dimensions and location of the contacts*
- *Part 3: Cards with contacts — Electrical interface and transmission protocols*
- *Part 4: Organization, security and commands for interchange*
- *Part 5: Registration of application providers*
- *Part 6: Interindustry data elements for interchange*
- *Part 7: Interindustry commands for Structured Card Query Language (SCQL)*
- *Part 8: Commands and mechanisms for security operations*
- *Part 9: Commands for card management*
- *Part 10: Electronic signals and answer to reset for synchronous cards*
- *Part 11: Personal verification through biometric methods*
- *Part 12: Cards with contacts — USB electrical interface and operating procedures*
- *Part 13: Commands for application management in a multi-application environment*

— *Part 15: Cryptographic information application*

STANDARDSISO.COM : Click to view the full PDF of ISO/IEC 7816-6:2016

Introduction

ISO/IEC 7816 is a series of International Standards specifying integrated circuit cards and the use of such cards for interchange. These cards are identification cards intended for information exchange negotiated between the outside world and the integrated circuit in the card. As a result of an information exchange, the card delivers information (computation result, stored data), and/or modifies its content (data storage, event memorization).

- Five parts are specific to cards with galvanic contacts and three of them specify electrical interfaces.
 - ISO/IEC 7816-1 specifies physical characteristics for cards with contacts.
 - ISO/IEC 7816-2 specifies dimensions and location of the contacts.
 - ISO/IEC 7816-3 specifies electrical interface and transmission protocols for asynchronous cards.
 - ISO/IEC 7816-10 specifies electrical interface and answer to reset for synchronous cards.
 - ISO/IEC 7816-12 specifies electrical interface and operating procedures for USB cards.
- All the other parts are independent from the physical interface technology. They apply to cards accessed by contacts and/or by radio frequency.
 - ISO/IEC 7816-4 specifies organization, security and commands for interchange.
 - ISO/IEC 7816-5 specifies registration of application providers.
 - ISO/IEC 7816-6 specifies interindustry data elements for interchange.
 - ISO/IEC 7816-7 specifies commands for structured card query language.
 - ISO/IEC 7816-8 specifies commands for security operations.
 - ISO/IEC 7816-9 specifies commands for card management.
 - ISO/IEC 7816-11 specifies personal verification through biometric methods.
 - ISO/IEC 7816-13 specifies commands for handling the life cycle of applications.
 - ISO/IEC 7816-15 specifies cryptographic information application.

ISO/IEC 10536 specifies access by close coupling. ISO/IEC 14443 and ISO/IEC 15693 specify access by radio frequency. Such cards are also known as contactless cards.

Identification cards — Integrated circuit cards —

Part 6: Interindustry data elements for interchange

1 Scope

This part of ISO/IEC 7816 specifies directly or by reference, data elements, including composite data elements that may be used in interindustry interchange.

It identifies the following characteristics of each data element:

- identifier;
- name;
- description and reference;
- format and coding (if not available in other ISO standards or parts of ISO/IEC 7816).

The layout of each data element is described as seen at the interface between the interface device and the card.

This part of ISO/IEC 7816 provides the definition of data elements without consideration of any restrictions on the usage of the data elements.

It does not cover the internal implementation within the card and/or the outside world. With the exception of login data objects (6.5), only application class tags are eligible in this part of ISO/IEC 7816.

When using an interindustry template, an application is allowed to nest context-specific class tags (see ISO/IEC 7816-4) under such a template unless it is previously marked as Reserved for Future Use ISO/IEC JTC 1/SC 17.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 4909, *Identification cards — Financial transaction cards — Magnetic stripe data content for track 3*

ISO/IEC 7813, *Information technology — Identification cards — Financial transaction cards*

ISO/IEC 7816 (all parts), *Identification cards — Integrated circuit cards*

ISO/IEC 10918-1, *Information technology — Digital compression and coding of continuous-tone still images — Part 1: Requirements and guidelines*

ISO/IEC 11544, *Information technology — Coded representation of picture and audio information — Progressive bi-level image compression*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

data element

item of information seen at the interface for which are defined a name, a description of logical content, a format and a coding

[SOURCE: ISO/IEC 7816-4:2013, 3.16, modified]

3.2

data object

information seen at the interface consisting of the concatenation of a mandatory tag field, a mandatory length field and a conditional value field

[SOURCE: ISO/IEC 7816-4:2013, 3.17]

3.3

template

concatenation of BER-TLV data objects forming the value field of a constructed BER-TLV data object

Note 1 to entry: The meaning of which is the same when found in 'XY' template, template for 'XY' DOs or 'XY' DOs template

[SOURCE: ISO/IEC 7816-4:2013, 3.58]

4 Abbreviated terms and notation

a	alphabetic character
n	numeric (binary-coded decimal format)
s	special character
an	alphanumeric character
ans	alphanumeric and special characters
..	denotes a range of values between two numbers
BCD	binary coded decimal

Any number following the notation denotes the number of digits or characters.

EXAMPLE

- a3 means three alphabetic characters;
- n..3 means one, two or three binary-coded decimal digits;
- n2..4 means two, three or four binary-coded decimal digits.

If the number of bits representing a data element is not a multiple of eight, then the mapping into a byte string should be defined in the context of the respective data element. If not specified otherwise, the appropriate number of bits shall be set to one in the last byte starting from bit 1.

YYMMDD	6 BCD-encoded digits
YYYYMMDD	8 BCD-encoded digits
YDDDDHHMMSS	10 BCD-encoded digits
YDDD	last digit of year concatenated with day of year on three digits
YDDDDHHMMSS	YDDD concatenated with hour of day, minute and second each on two digits
YYMM	last two digits of year concatenated month on two digits
YYMMDD	YYMM concatenated with day of month on two digits
YYYYMMDD	four digits of year concatenated with month and day of month each on two digits

NOTE The former 3-period notation being equivalent to 2-period notation, it is deprecated.

5 Maintenance of interindustry data objects

It is the intention that every interindustry data object, specified at the time of publication, should be listed in this part of ISO/IEC 7816. To allow the introduction, deletion, or amendment of any data object, the following procedures shall be adopted:

- **Interindustry data objects from ISO/IEC 7816** — if any part of ISO/IEC 7816 introduces new data objects, then the normal ballot process shall approve them. Following publication of that part of ISO/IEC 7816, these data objects will be incorporated into this part of ISO/IEC 7816 at the next revision.
- **Interindustry data objects from other standards** — for such data objects, an amendment to this document will be required and this will be subject to the normal ISO/IEC JTC 1 voting procedures. Following successful ballot the data objects will be incorporated into this part of ISO/IEC 7816.
- **Allocation Authority** — once an Application class tag is allocated to a norm as described above, this norm becomes the allocation authority for all context-specific Data Objects it endorses and encapsulates under the aforementioned Tag.

6 Specific interindustry data elements

6.1 Name of an individual

Referenced by tag '5B', this interindustry data element consists of up to 39 bytes; each byte is a character as defined in ISO/IEC 7501-1. The data element consists of surname, i.e. family name, given name(s), i.e. forename(s), name suffix, e.g. Jr., number, and filler(s), all coded according to ISO/IEC 8859-1.

National languages with non-Latin characters shall be transliterated or transcribed into the Latin alphabet using the appropriate International Standard. In cases where names cannot be shown in full or a special alphabet is needed or the transliteration or transcription is not sufficient, the qualified name template should be used.

6.2 Proprietary login data

Referenced by tag '5E', this interindustry data element consists of login data with proprietary structures not specified in ISO/IEC 7816.

6.3 Magnetic stripe data

The coding of the magnetic stripe data is as follows:

- referenced respectively by tags '5F21', '5F22' and '5F23', these interindustry data elements shall code card tracks 1, 2 and 3. Such a tag shall be used when the data element is identical to the data coded on the corresponding track on the magnetic stripe of the card (see ISO/IEC 7813 and ISO/IEC 4909);
- referenced respectively by tags '56', '57' and '58', these interindustry data elements shall code application tracks 1, 2 and 3. Such a tag shall be used when, while formatted according to ISO/IEC 7813 and ISO/IEC 4909, the data element may differ from the data coded on the corresponding track of the magnetic stripe of the card.

6.4 PIN usage policy

Referenced by tag '5F2F', this interindustry data element shall consist of two bytes. It lists the tests the terminal shall perform in order to determine whether a PIN (personal identification number) is applicable to the current transaction, and, therefore, whether the terminal should prompt for the PIN. If set to one, bit 8 of the first byte specifies that a PIN applies to this application and the terminal should prompt for the PIN. The meaning of the other fifteen bits is application-dependent. If all bits are set to zero, then the terminal should not prompt for the PIN. If bit 8 of the first byte is set to one or if any test implies a PIN, but the PIN cannot be presented, then the action to take is application-dependent.

6.5 Login template

Referenced by tag '6A', this interindustry template shall consist of one or more primitive data objects. Within the login template, the context-specific class (first byte in the range '80' to 'BF') is reserved for login data objects, such as qualifiers, numbers, texts and delay indicators, as listed in [Table 1](#) and specified hereafter.

Table 1 — Login data objects

Tag (hex)	Meaning
6A	Interindustry template for nesting login data objects with the following tags
80	Qualifier
81	Number
82	Text
83, 84	Delay indicators
In this context, ISO/IEC JTC 1/SC 17 reserves any other data object of the context-specific class (first byte from '80' to 'BF')	

- **Qualifier** — Referenced by tag '80' in a login template, this data element shall consist of one to nine bytes: a mandatory first byte coding a rank, followed by up to eight optional bytes coding a mnemonic. It shall qualify the subsequent objects in the template, until the next qualifier, if any.
 - The rank is a number from zero to 255. If two or more qualifiers have the same rank within the same context, then only the set of objects qualified by the most recent one is valid.
 - The mnemonic is a string of up to eight bytes consisting of 7-bit characters (bit 8 set to 0, see ISO/IEC 646) to display at the man-machine interface.
- **Number** — Referenced by tag '81' in a login template, this data element shall consist of an even number of quartets where each quartet codes one character for representing a telephone number according to [Table 2](#).

Table 2 — Telephone number

Quartet	Character	Meaning
'0' to '9'	0 to 9	Decimal digits
'A'	(	Opening bracket
'B'	)	Closing bracket
'C'	C	Requirement for connecting to the line before continuing
'D'	+	Introduction to an international telephone number
'E'	—	If first, introduction of a number to use without prefix If not first, requirement for a delay (two seconds) before continuing
'F'		Reserved for padding

- **Text** — Referenced by tag '82' in a login template, this data element shall consist of one or more bytes where each byte codes one character. Bit 8 sets the difference between data characters (bit 8 set to zero) and control characters (bit 8 set to one). The byte string consists of one or more strings of data characters (7-bit character, see ISO/IEC 646) separated by strings of control characters. The following control characters are defined.
 - '80' — A message has to be received before sending the next character.
 - 'C0' — A modulation has to be present before sending the next character.
 - '8X' — X characters have to be received in echo before waiting for a message.
- **Delay indicators** — Referenced by tag '83' or '84' in a login template, this data element shall consist of one byte as specified in [Table 3](#).
 - When present, a delay indicator data object with tag '83' fixes the time for detecting an end of message. The default value shall be two seconds.
 - When present, a delay indicator data object with tag '84' fixes the time for detecting an absence of response. The default value shall be sixty seconds.

Table 3 — Delay indicator byte

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
0	0							Any other value is reserved for future use by ISO/IEC JTC 1/SC 17.
—	—	x	x	—	—	—	—	The time unit is
—	—	0	0	—	—	—	—	— 100 milliseconds
—	—	0	1	—	—	—	—	— 1 second
—	—	1	0	—	—	—	—	— 10 seconds
—	—	1	1	—	—	—	—	— 100 seconds
				x	x	x	x	Number of time units from zero to fifteen

6.6 Qualified name template

Referenced by tag '6B', this interindustry template shall consist of the following:

- one or more object identifiers (tag '06') referring to the standards defining the qualified name presentation;
- a name (tag '80' or 'A0'), the value and coding of which are defined by the aforementioned standards;
- other related optional information (e.g. sex, nationality, place of birth).

6.7 Cardholder image template

Referenced by tag '6C', this interindustry template shall contain at least one data object as defined hereafter, possibly preceded by a tag allocation authority indicator (see ISO/IEC 7816-4) for identifying the authority responsible for the data object format.

- **Cardholder biometric data** — referenced by tag '5F2E', this interindustry data element contains biometric data for verifying the claimed identity of the person presenting the card. Examples of biometric data are fingerprints, palm prints, voiceprints, dynamic signatures, etc.
- **Cardholder portrait image** — referenced by tag '5F40', this interindustry data element shall be formatted as defined in ISO/IEC 10918-1, unless otherwise specified and/or requested by an authority.
- **Cardholder handwritten signature image** — referenced by tag '5F43', this interindustry data element shall be formatted as defined in ISO/IEC 11544 unless otherwise specified and/or requested by an authority.

The use of this interindustry data object should be associated with appropriate security measures.

Further information on personal verification through biometric methods may be found in ISO/IEC 7816-11.

6.8 Application image template

Referenced by tag '6D', this interindustry template shall contain at least an application image (tag '5F44'), i.e. an icon or a logo related to the application. It may also contain an authority indicator (see ISO/IEC 7816-4) identifying the authority responsible for the data format of the application image. In the absence of authority indicator, the format shall be as defined in ISO/IEC 10918-1.

6.9 Display control template

Referenced by tag '7F20', this interindustry template may contain one or more data objects, the value of which, either directly or indirectly through templates, is not intended to be displayed and should only be used, when relevant, for processing of transmission.

7 Identification of integrated circuit manufacturers

7.1 General

This Clause specifies

- a numbering system for integrated circuit manufacturer identifiers, and
- rules for registration of integrated circuit manufacturers and rules for assignment of identifiers

to identify manufacturers of integrated circuits to be embedded in contact and/or contactless integrated circuits cards. The assigned values of the integrated circuit manufacturer identifiers will form the register, published as SC 17 Standing Document 5.

Applications for a number may be made using the form in [Annex A](#).

7.2 Identifier

The identifier is referenced by tag '5F4D'. It may be present in pre-issuing data (compact header '6Y' in the historical bytes and interindustry tag '46' in EF.ATR/INFO) on a proprietary basis.

NOTE In ISO/IEC 7816-6:1996/Amd 1:2000, tag '5F4B' references an integrated circuit manufacturer identifier (a data element of one byte). In ISO/IEC 7816-9:2000, tag '5F4B' references a certificate holder authorization (a data element of five or more bytes). Consequently, tag '5F4B' is now deprecated in ISO/IEC 7816.

The identifier consists of one byte where the bits are not all set to one; the value 'FF' is reserved for future extension. Longer identifiers are reserved for future use by ISO/IEC JTC 1/SC 17.

The identifier byte shall be used according to [Table 4](#).

Table 4 — Identifier byte

Value	Meaning
'00'	Reserved for future use by ISO/IEC JTC 1/SC 17
'01' .. '7E'	Reserved for the register
'7F', '80'	Reserved for future use by ISO/IEC JTC 1/SC 17
'81' .. 'FE'	Proprietary
'FF'	Reserved for future extension by ISO/IEC JTC 1/SC 17

7.3 Rules for assignment

The ISO/IEC JTC 1/SC 17 Secretariat¹⁾ will assign and register the integrated circuit manufacturer identifiers (range '01' to '7E') according to the following rules:

- the assignment is made upon request from any integrated circuit manufacturer or any interested party;
- the form contained in [Annex A](#) should be used to request an assignment;
- a single number shall be assigned to each manufacturer (next available number);
- the assigned values shall form the register provided in SC 17 Standing Document 5;
- SC 17 Standing Document 5 will be updated as required;
- SC 17 shall, at a periodicity of 12 months, check the content of SC 17 Standing Document 5 for accuracy;
- a copy of SC 17 Standing Document 5 shall be available at the SC 17 website <http://isotc.iso.org/livelink/livelink/open/jtc1sc17>.

NOTE: SC 17 Standing Document 5 can be found under "01. Public information" folder.

8 Interchange profile

The specification of data objects associated with the interchange profile of the card (e.g. available authentication methods and security functions) may be further detailed in future parts of ISO/IEC 7816. [Table 5](#) shows interindustry data objects reserved for interchange profile.

1) Please refer to www.iso.org/iso/standards_development/technical_committees/maintenance_agencies.htm for details of where to submit the completed form.

Table 5 — Interindustry data objects reserved for interchange profile

Tag	Value
5F29	Interchange profile
5F37	Static internal authentication (one-step)
5F38	Static internal authentication, first associated data
5F39	Static internal authentication, second associated data
5F3A	Dynamic internal authentication
5F3B	Dynamic external authentication
5F3C	Dynamic mutual authentication

9 Interindustry data elements in alphabetic order

Table 6 lists interindustry data elements in alphabetic order, with description, reference, tag, length and format where appropriate.

NOTE Whenever widely used, for example, in published specifications, Data Element acronyms are indicated and their first character is in capital letter.

Table 6 — Interindustry data elements in alphabetic order

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
Account type	Indicates the type of account selected by the cardholder for the transaction (see EMV for coding).	5F57	n2	6E
Address	Address of an individual	5F42	variable	65
Answer-To-Reset (ATR)	Indicates operating characteristics of the card (defined in ISO/IEC 7816-3).	5F51	1..32 bytes	—
Application Capability Description template(ACD)	Template for description of each card-application including alpha card-application (see ISO/IEC 24727-2).	7F63	variable	—
Application effective date	Date from which the application can be used, under the responsibility of the application provider.	5F25	n6/YYMMDD	6E
Application expiration date	Date after which an application expires, under the responsibility of the application provider.	5F24	n6/YYMMDD	6E
Application Family Identifier (AFI)	Designation of several application areas to enable global interoperability (see ISO/IEC 14443-3).	49	1 byte '00'..'FF'	—
Application Identifier (AID)	Data element identifying an application in the card (coding defined in ISO/IEC 7816-4).	4F	variable	61, 6E
Application image	Icon or logo associated with an application (see ISO/IEC 10918-1).	5F44	variable	6D
Application image template	Template nesting at least an application image.	6D	variable	6E
Application label	Data element for use at the man machine interface.	50	variable	61, 6E
Application related data template	Template nesting parameters of an application.	6E	variable	—

Table 6 (continued)

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
Application template	Template identifying an application in the card (defined in ISO/IEC 7816-4).	61	variable	—
Authentication data template	Template nesting authentication data and parameters.	67	variable	66
Business Identifier Code (BIS)	A universal Business Identifier Code (former Bank Identifier Code) for use in automated processing in banking and related financial environments (see ISO 9362).	5F54	an8 or 11	6E
Biometric Information Template (BIT)	Template nesting biometric information data objects (defined in ISO/IEC 7816-11).	7F60	variable	—
Biometric information group template	Template used for nesting biometric information templates (see ISO/IEC 7816-11).	7F61	variable	—
Biometric data template	Template nesting biometric reference data objects (defined in ISO/IEC 7816-11).	7F2E	variable	7F60
Card capabilities	Data element fixing card behaviours (defined in ISO/IEC 7816-4).	47	variable	66
Card Capability Description template (CCD)	Template describing card capability, may be present in EF.ATR or in alpha card-application (see ISO/IEC 24727-2).	7F62	variable	—
Card data template	Template nesting data related to the card.	66	variable	—
Card effective date	Date from which the card can be used, under the responsibility of the card issuer.	5F26	n6/YYMMDD	66
Card expiration date	Date after which the card expires.	59	n4/YYMM	66
Card issuer's data	Proprietary (see ISO/IEC 7816-4)	45	variable	66
Card management service template	Template for card management data objects description, may be found in EF.ATR (see ISO/IEC 7816-13).	7F64	variable	—
Card sequence number	Number distinguishing between separate cards with the same primary account number.	5F34	n2	66
Card service data	Indication of methods available in the card for supporting services (defined in ISO/IEC 7816-4).	43	1 byte	—
Cardholder biometric data	Biometric data related to the cardholder.	5F2E	variable	65
Cardholder certificate template	Template nesting the cardholder public key, further information, signature of certification authority.	7F21	variable	65
Cardholder handwritten signature image	Image of the cardholder's handwritten signature (see ISO/IEC 11544).	5F43	variable	6C
Cardholder image template	Cardholder related images stored within the card (defined in ISO/IEC 7816-4).	6C	variable	65
Cardholder name	Name of the cardholder (defined in ISO/IEC 7813)	5F20	n2...26	65
Cardholder nationality	Nationality of the cardholder (coding defined in ISO 3166-1)	5F2C	n3	65

Table 6 (continued)

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
Cardholder portrait image	Encoded image data, used for the cardholder portrait image (format defined in ISO/IEC 10918-1).	5F40	variable	6C
Cardholder private key	Data element containing the cardholder's private key for digital signature functionality using asymmetric mechanisms.	5F48	variable	65
Cardholder private key template	Template nesting private key related data objects.	7F48	variable	65
Cardholder public key	Data element containing the cardholder's public key data elements for digital signature functionality using asymmetric mechanisms.	5F49	variable	65
Cardholder public key template	Template containing the cardholder's public key data objects for digital signature functionality using asymmetric mechanisms (defined in ISO/IEC 7816-8).	7F49	variable	65
Cardholder related data template	Template nesting data related to the cardholder.	65	variable	—
Cardholder requirements template, excluded features	Data element containing cardholder's requirements for excluded features e.g. cardholder is not able to use fingerprint verification (see EN 1332-4 for further information on coding of user requirements).	7F23	variable	65
Cardholder requirements template, included features	Data element containing a cardholder's requirements for included features e.g. cardholder requires audio assistance from an ATM (see EN 1332-4 for further information on coding of user requirements).	7F22	variable	65
Certificate content	Data element containing the content of a certificate.	5F4E	variable	7F21
Certificate content template	Template for nesting certificate content data objects.	7F4E	variable	—
Certificate Holder Authorization	Deprecated (see 7.2 and note under Table 7)	5F4B	variable	—
Certificate Holder Authorization (CHA)	A certificate holder authorization (e.g. a role identifier) may be contained in a data element or data object with tag '5F4C'.	5F4C	variable	—
Certificate Holder Authorization Template (CHAP)	Template containing an object identifier specifying the format of the template and data object(s) encoding the certificate holder authorization (e.g. role and access rights).	7F4C	variable	7F4E
Coexistent tag allocation authority template	Template used to identify a coexistent tag allocation scheme and the authority responsible for the scheme.	79	variable	—
Command-to-perform	Command APDU (see ISO/IEC 7816-3)	52	variable	61
Compatible tag allocation authority	Template used to identify a compatible tag allocation scheme and the authority responsible for the scheme.	78	variable	—
Control Parameters (CP) template	Template for nesting file or data object control parameters.	62	variable	—
Country code	Indication of a country (coding and registration defined in ISO 3166-1)	5F28	n3	66

Table 6 (continued)

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
Country code (alpha 2 format)	Indication of a country (see ISO 3166-1)	5F55	a2	66
Country code (alpha 3 format)	Indication of a country (see ISO 3166-1)	5F56	a3	66
Country code and optional national data	Indication of a country followed by national data (coding and registration defined in ISO 3166-1) and optional national data.	41	n3 and national data	66
Currency code	Code for the representation of currencies and funds (see ISO 4217).	5F2A	a3 or n3	6E
Currency exponent	Number by which an amount of the currency indicated in the card shall be multiplied (see ISO 4217).	5F36	n1	6E
Date of birth	Date of birth of related individual	5F2B	n8/ YYYYMMDD	65
Digital signature	Data element containing a digital signature (asymmetric or symmetric algorithm).	5F3D	variable	7F3D
Digital signature block template	Template nesting digital signature related data objects.	7F3D	variable	—
Discretionary data	Data element not defined in ISO/IEC 7816.	53	variable	Interindustry template
Discretionary data objects template	Concatenation of data objects not defined in ISO/IEC 7816.	73	variable	Interindustry template
Display control template	Template used to control data displayed at the terminal.	7F20	variable	66
Display message	Data element containing a message to display.	5F45	variable	66
Dynamic authentication template	Template used in the command and response data fields of the GENERAL AUTHENTICATE command (defined in ISO/IEC 7816-4).	7C	variable	—
Dynamic external authentication	Composite data element used for identifying the algorithm and the key to use in the EXTERNAL AUTHENTICATE command.	5F3B	variable	67
Dynamic internal authentication	Composite data element used for identifying the algorithm and the key to use in the INTERNAL AUTHENTICATE command.	5F3A	variable	67
Dynamic mutual authentication	Composite data element used for identifying the algorithm and the key to use in the mutual authentication process (see ISO/IEC 9798-2 and ISO/IEC 9798-3).	5F3C	variable	67
Element list	Sequence of elements and related information, without identifiers (to be used only within a wrapper).	5F41	variable	—
Extended header list	Data element for indirectly referencing data elements (coding defined in ISO/IEC 7816-4).	4D	variable	—
Extended header list referencing a byte string	Extended header list for referencing a byte string with no stated structure and entitle skipping indication of primitive DOs.	5F60	variable	—
Extended header list referencing one or several DOs	Extended header list (referencing one or several DOs); entitle skipping indication of primitive DOs.	5F61	variable	—

Table 6 (continued)

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
Extended length information template	Extended length information template (coding defined in ISO/IEC 7816-4, 12.7.1) may be present in EF.ATR/INFO and/or in the FMD of any Application DF and it is denoted by the third software function table of the card capabilities.	7F66	variable	—
FCI template	File Control Information Template for nesting file control parameters and file management data.	6F	variable	—
Features management template	Possibly extendable features on the card exposed to outside world in a generic way. May be located in EF.ATR/INFO and/or in the FCI of any application DF (see ISO/IEC 7816-4).	7F74	variable	—
File reference	Reference to a file, e.g. a path (coding defined in ISO/IEC 7816-4).	51	variable	61
Filter template	Template referencing a constructed data objects by its content.	7F71	variable	60
File Management Data (FMD) template	File Management Data Template for nesting file management data.	64	variable	—
General reference template	Template conveyed in a command data field or nested in object locator template '7F72' and indicating a DF, EF, DO, or DataString with possibly the application of a filter or a mask.	60	variable	—
Header list	Concatenation of pairs of tag fields and length fields without delimitation (as defined in ISO/IEC 7816-4).	5D	variable	—
Historical bytes	Indicate operating characteristics of the card (see ISO/IEC 7816-4)	5F52	0..15 bytes	—
Integrated circuit manufacturer identifier	Indication of a manufacturer of integrated circuits	5F4D	1 byte	—
Initial access data	Indication of a command-to-perform for retrieving the initial data string (coding defined in ISO/IEC 7816-4).	44	variable	66
Interchange control	Indication to use in association with a country code to indicate whether international interchange is permitted on a card (see ISO/IEC 4909).	5F27	n1	66
Interchange profile	Data element describing capabilities available in the card to perform an interchange transaction.	5F29	variable	67
International Bank Account Number (IBAN)	A number used internationally to uniquely identify the account of a customer at a financial institution (see ISO 13616-1).	5F53	an...34	6E
Issuer Identification Number (IIN) and optional issuer data	Data element for identifying the card issuer (coding and registration defined in ISO/IEC 7812-1), possibly followed by more data.	42	variable	—
Language preferences	Indication, in order of preference, of up to four languages for the cardholder (see ISO 639-1).	5F2D	a2..8	65

Table 6 (continued)

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
List of supported INS codes	List of supported INS codes that may be located in EF.ATR/INFO and/or in the FMD of any application DF.	5F63	variable	64
Login data (Proprietary)	Proprietary information intended for connecting the interface device to a remote host, a remote server or an application within these devices.	5E	variable	6E
Login template	Template conveying data intended for connecting the interface device to a remote server or an application within such devices (defined in ISO/IEC 7816-4).	6A	variable	6E
Mask	References a DO by partial tag and allows recovery of a concatenation of all tags of the template matching the masked tag.	5F8400	variable	60
Memory resource assignment template	Template describing the memory resource assignment data objects for persistent and volatile memory (see ISO/IEC 7816-13).	7F65	variable	—
Message reference	Data element specifying the reference of a message.	5F47	variable	66
Name	Name of an individual (structure and coding defined in ISO/IEC 7501-1)	5B	a..39	65
Non constructed filter	Binary filter providing a binary mask to be used in a logical AND operation onto the data to be compared before comparison command (see ISO/IEC 7816-4).	5F71	variable	—
Object Identifier (OID)	Indication of a standard (coding defined in ISO/IEC 8825-1)	06	variable	—
Object locator template	Template comprised of a mandatory object reference DO (present on-card), followed by a conditional attribute reference DO (see ISO/IEC 7816-4).	7F72	variable	—
Offset data object	For use with commands using an odd INS code (see ISO/IEC 7816-4).	54	variable, binary	—
PIN usage policy	Indication whether PIN entry is required and under what circumstances.	5F2F	2 bytes	6E
Pre-issuing data	Proprietary, see ISO/IEC 7816-4	46	variable	66
Primary Account Number (PAN)	Number identifying a customer account or card (structure defined in ISO/IEC 7812 and coding in ISO 8583-1).	5A	n..19	6E
Public key of certification authority	Data element containing the certification authority's public key for digital signature functionality used to verify certificates.	5F4A	variable	65
Qualified name	Template nesting the name of an individual and related information, e.g. sex, date of birth, etc.	6B	variable	65
Secure messaging template	Template nesting secure messaging data objects (defined in ISO/IEC 7816-4).	7D	variable	—
Security environment template	Template nesting components of a security environment (defined in ISO/IEC 7816-4).	7B	variable	—
Security support template	Template for encapsulating counters and auxiliary data (defined in ISO/IEC 7816-4).	7A	variable	—

Table 6 (continued)

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
Service code	Identification of geographic/service availability [structure defined in ISO/IEC 7813 and coding in ISO 8583-1].	5F30	n3	6E
Sex	Gender of an individual (see ISO/IEC 5218)	5F35	1 byte	65
Special user requirements template	Template containing at least a tag allocation authority (tag '06', '41', '42', or '4F') and a data object by which this authority indicates the user requirements, possibly related to a disability.	68	variable	65
Static internal authentication (one-step)	Data element containing a digital signature value which may be used either alone or in conjunction with the tags '5F38' and '5F39'.	5F37	variable	67
Static internal authentication, first associated data	Public key certificate data element to use either alone or in conjunction with the tag '5F39', to derive a public key value.	5F38	variable	67
Static internal authentication, second associated data	Data auxiliary to the public key certificate, tag '5F38', used to derive the notarised public key.	5F39	variable	67
Status indicator	Information on card life cycle status and processing status (coded as COMPACT-TLV data object in ISO/IEC 7816-4).	48	1..3 bytes	—
Tag list	Concatenation of tag fields without delimitation (defined in ISO/IEC 7816-4).	5C	variable	—
Templates for non- interindustry data objects	Templates nesting non-interindustry data objects (see compatible tag allocation scheme, ISO/IEC 7816-4).	70..72, 74..77	variable	—
Template for interindustry data objects	Template nesting interindustry data objects.	7E	variable	—
Timer	Data element specifying the maximal time, in tenths of a second, for performing or executing a process.	5F46	2 bytes, binary coded most significant byte first	66
Track 1 (application)	Structure defined in ISO/IEC 7813 and coding in ISO 8583-1, including field separators but excluding start and end sentinels and longitudinal check characters as defined therein.	56	ans..76	6E
Track 1 (card)	Structure defined in ISO/IEC 7813 and coding in ISO 8583-1, including field separators but excluding start and end sentinels and longitudinal check characters as defined therein. The data content is the same as track 1 of the magnetic stripe, including discretionary data.	5F21	ans..76	66
Track 2 (application)	Structure defined in ISO/IEC 7813 and coding in ISO 8583-1, including field separators but excluding start and end sentinels and longitudinal check characters as defined therein.	57	n..37	6E

Table 6 (continued)

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
Track 2 (card)	Structure defined in ISO/IEC 7813 and coding in ISO 8583-1, including field separators but excluding start and end sentinels and longitudinal check characters as defined therein. The data content is the same as track 2 of the magnetic stripe, including discretionary data.	5F22	n..37	66
Track 3 (application)	Structure defined in ISO/IEC 4909 and coding in ISO 8583-1, including field separators but excluding start and end sentinels and longitudinal check characters as defined therein.	58	n..104	6E
Track 3 (card)	Structure defined in ISO/IEC 4909 and coding in ISO 8583-1, including field separators but excluding start and end sentinels and longitudinal check characters as defined therein. The data content is the same as track 3 of the magnetic stripe, including discretionary data.	5F23	n..104	66
Transaction counter	Counter incremented under the control of the application in the card after each transaction	5F32	variable, binary	6E
Transaction date	Used to recognise the date and time of the last transaction. Length is 4 for YDDD and 10 for full field.	5F33	n4/YDDD or n10/YDDDHMMSS	6E
Verification data DO	Optional use to denote a Password/PIN in VERIFY or CHANGE REFERENCE DATA command with odd INS code (see ISO/IEC 7816-4).	5F62	variable	—
Uniform Resource Locator (URL)	Uniform resource locator (URL, as defined in RFC 1738 and 2396)	5F50	variable	—
Virtual root DO template	virtual constructed DO made current by the selection of a file, a record or a DataString supporting DO handling (see ISO/IEC 7816-4).	7F70	variable	—
Wrapper or Tagged wrapper template	Template for indirect referencing and retrieval of data elements.	63	variable	—

10 Interindustry tags in numeric order

Table 7 lists interindustry 1-byte, 2-byte or 3-byte tags in numeric order. Table 8 lists interindustry 3-byte tags for ISO/IEC 24727 Service Access Layer (SAL) Application Programming Interface (API) Marshalling/unmarshalling[17][18] in numeric order.

Table 7 — Interindustry tags in numeric order

Tag	Name of data element
06	Object Identifier (OID)
41	Country code and national data
42	Issuer Identification Number (IIN)
43	Card service data
44	Initial access data
45	Card issuer's data
46	Pre-issuing data

Table 7 (continued)

Tag	Name of data element
47	Card capabilities
48	Status indicator
49	Application Family Identifier (AFI)
4D	Extended header list
4F	Application Identifier (AID)
50	Application label
51	File reference
52	Command-to-perform
53	Discretionary data
54	Offset data object
56	Track 1 (application)
57	Track 2 (application)
58	Track 3 (application)
59	Card expiration date
5A	Primary Account Number (PAN)
5B	Name
5C	Tag list
5D	Header list
5E	Login data (Proprietary)
60	General reference template
61	Application template
62	Control Parameter (CP) template
63	Wrapper or Tagged wrapper template
64	File Management Data (FMD) template
65	Template for cardholder related data
66	Card data template
67	Authentication data template
68	Template for Special user requirements
6A	Login template
6B	Qualified name template
6C	Cardholder image template
6D	Application image template
6E	Application related data template
6F	File Control Information (FCI) template
70..72, 74..77	Templates nesting non interindustry data objects (see compatible tag allocation scheme, ISO/IEC 7816-4)
73	Template for discretionary data objects
78	Template for compatible tag allocation authority
79	Template for coexistent tag allocation authority
7A	Security support template
7B	Security environment template
7C	Dynamic authentication template
7D	Secure messaging template
7E	Template nesting interindustry data objects

Table 7 (continued)

Tag	Name of data element
5F20	Cardholder name
5F21	Track 1 (card)
5F22	Track 2 (card)
5F23	Track 3 (card)
5F24	Application expiration date
5F25	Application effective date
5F26	Card effective date
5F27	Interchange control
5F28	Country code
5F29	Interchange profile
5F2A	Currency code
5F2B	Date of birth
5F2C	Cardholder nationality
5F2D	Language preferences
5F2E	Cardholder biometric data
5F2F	PIN usage policy
5F30	Service code
5F32	Transaction counter
5F33	Transaction date
5F34	Card sequence number
5F35	Sex
5F36	Currency exponent
5F37	Static internal authentication (one-step)
5F38	Static internal authentication, first associated data
5F39	Static internal authentication, second associated data
5F3A	Dynamic internal authentication
5F3B	Dynamic external authentication
5F3C	Dynamic mutual authentication
5F3D	Digital signature
5F40	Cardholder portrait image
5F41	Element list
5F42	Address
5F43	Cardholder handwritten signature image
5F44	Application image
5F45	Display message
5F46	Timer
5F47	Message reference
5F48	Cardholder private key
5F49	Cardholder public key
5F4A	Public key of certification authority
5F4B	Deprecated (see note below)
5F4C	Certificate Holder Authorization (CHA)
5F4D	Integrated circuit manufacturer identifier
5F4E	Certificate content

Table 7 (continued)

Tag	Name of data element
5F50	Uniform Resource Locator (URL)
5F51	Answer-To-Reset (ATR)
5F52	Historical bytes
5F53	International Bank Account Number (IBAN)
5F54	Business Identifier Code (BIC) (see ISO 9362)
5F55	Country Code (alpha 2 format)
5F56	Country Code (alpha 3 format)
5F57	Account Type
5F60	Extended header list (referencing a byte string)
5F61	Extended header list (referencing one or several DOs)
5F63	List of supported INS codes
5F62	Verification data DO
5F71	Non constructed filter
7F20	Display control template
7F21	Cardholder certificate template
7F22	Template for cardholder requirements, included features
7F23	Template for cardholder requirements, excluded features
7F2E	Biometric data template
7F3D	Digital signature block template
7F48	Cardholder private key template
7F49	Cardholder public key template
7F4C	Certificate Holder Authorization Template (CHAT)
7F4E	Certificate content template
7F60	Biometric information template
7F61	Biometric information group template
7F62	Card capability description template
7F63	Application capability description template
7F64	Card management service template
7F65	Memory resource assignment template
7F66	Extended length information
7F70	Virtual root data object template
7F71	Filter template
7F72	Object locator template
7F74	General features management template
5F8400	Mask

NOTE In ISO/IEC 7816-9:2000, tag '5F4B' references a certificate holder authorization (a data element of five or more bytes). In ISO/IEC 7816-6:1996/Amd 1:2000, tag '5F4B' references an integrated circuit manufacturer identifier (a data element of one byte). Consequently, tag '5F4B' is now deprecated in this edition of ISO/IEC 7816-6. A certificate holder authorization is now tag '5F4C' and an integrated circuit manufacturer identifier is now tag '5F4D'.

Table 8 — Interindustry tags for ISO/IEC 24727 in numeric order

Tag	Name of data element for remote SAL API call	Description and reference
7F8F51	APIAccess interface Service: InitializeCall	Marshalling of the always executable call initializing the ISO/IEC 24727-3 layer including connectivity to other components of ISO/IEC 24727 protocol stack (ISO/IEC 24727-3:2008, 6.2 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.1).
7F8F52	APIAccess interface Service : InitializeReturn	Marshalling of the response to InitializeCall (ISO/IEC 24727-3:2008, 6.2.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.1).
7F8F53	APIAccess interface Service : TerminateCall	Marshalling of the call terminating access to card-application-services (ISO/IEC 24727-3:2008, 6.3 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.2).
7F8F54	APIAccess interface Service : TerminateReturn	Marshalling of the response to TerminateCall (ISO/IEC 24727-3:2008, 6.3.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.2).
7F8F55	APIAccess interface Service : CardApplicationPathCall	Marshalling of the call determining card-application-paths from the client-application to a named card-application (ISO/IEC 24727-3:2008, 6.4 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.3).
7F8F56	APIAccess interface Service : CardApplicationPathReturn	Marshalling of the response to CardApplicationPathCall (ISO/IEC 24727-3:2008, 6.4.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.2).
7F8F57	Connection interface Service : CardApplicationConnectCall	Marshalling of the call establishing an unauthenticated connection between the client-application and a card-application (ISO/IEC 24727-3:2008, 7.2 and ISO/IEC 24727-3:2008/Cor 1:2010, 4.4).
7F8F58	Connection interface Service : CardApplicationConnectReturn	Marshalling of the response to CardApplicationConnect-Call (ISO/IEC 24727-3:2008, 7.2.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.4).
7F8F59	Connection interface Service : CardApplicationDisconnectCall	Marshalling of the call terminate a connection between the client-application and a card-application (ISO/IEC 24727-3:2008, 7.3 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.5).
7F8F5A	Connection interface Service : CardApplicationDisconnectReturn	Marshalling of the response to CardApplication-Disconnect-Call (ISO/IEC 24727-3:2008, 7.3.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.5).
7F8F5B	Connection interface Service : CardApplicationStartSessionCall	Marshalling of the call establishing a session between a client-application and a card-application (ISO/IEC 24727-3:2008, 7.4 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.6).
7F8F5C	Connection interface Service : CardApplicationStartSessionReturn	Marshalling of the response to CardApplicationStart-Session-Call (ISO/IEC 24727-3:2008, 7.4.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.6).
7F8F5D	Connection interface Service : CardApplicationEndSessionCall	Marshalling of the call ending a session between a client-application and a card-application (ISO/IEC 24727-3:2008, 7.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.7).
7F8F5E	Connection interface Service : CardApplicationEndSessionReturn	Marshalling of the response to CardApplicationEnd-Session-Call (ISO/IEC 24727-3:2008, 7.5.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.4.7).
7F8F5F	Card-Application interface Service : CardApplicationListCall	Marshalling of the call returning the names of the card-applications listed in the alpha card-application, the access rule applicable to this action being in the access control list of the current card-application (ISO/IEC 24727-3:2008, 8.2 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.1).
7F8F60	Card-Application interface Service : CardApplicationListreturn	Marshalling of the response to CardApplicationListCall (ISO/IEC 24727-3:2008, 8.2.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.1).
7F8F61	Card-Application interface Service : CardApplicationCreateCall	Marshalling of the call creating a new card-application (ISO/IEC 24727-3:2008, 8.3 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.2).

Table 8 (continued)

Tag	Name of data element for remote SAL API call	Description and reference
7F8F62	Card-Application interface Service : CardApplicationCreateReturn	Marshalling of the response to CardApplicationCreateCall (ISO/IEC 24727-3:2008, 8.3.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.2).
7F8F63	Card-Application interface Service : CardApplicationDeleteCall	Marshalling of the call deleting the named card-application including all of its services, data-sets, and differential-identities (ISO/IEC 24727-3:2008, 8.4 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.3).
7F8F64	Card-Application interface Service : CardApplicationDeleteReturn	Marshalling of the response to CardApplicationDeleteCall (ISO/IEC 24727-3:2008, 8.4.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.3).
7F8F65	Card-Application interface Service : CardApplicationServiceListCall	Marshalling of the call listing the card-application-services in the current card-application (ISO/IEC 24727-3:2008, 8.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.4).
7F8F66	Card-Application interface Service : CardApplicationServiceListReturn	Marshalling of the response to CardApplicationService-List-Call (ISO/IEC 24727-3:2008, 8.5.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.4).
7F8F67	Card-Application interface Service : CardApplicationServiceCreateCall	Marshalling of the call creating a new card-application-service in the current card-application (ISO/IEC 24727-3:2008, 8.6 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.5).
7F8F68	Card-Application interface Service : CardApplicationServiceCreateReturn	Marshalling of the response to CardApplicationService-Create-Call (ISO/IEC 24727-3:2008, 8.6.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.5).
7F8F69	Card-Application interface Service : CardApplicationServiceLoadCall	Marshalling of the call loading executable code that implements a card-application-service into the current card-application (ISO/IEC 24727-3:2008, 8.7.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.6).
7F8F6A	Card-Application interface Service : CardApplicationServiceLoadReturn	Marshalling of the response to CardApplicationService-LoadCall.
7F8F6B	Card-Application interface Service : CardApplicationServiceDeleteCall	Marshalling of the call deleting the named card-application-service, including the code that implements it, from the current card-application (ISO/IEC 24727-3:2008, 8.8 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.7).
7F8F6C	Card-Application interface Service : CardApplicationServiceDeleteReturn	Marshalling of the response to CardApplicationService-Delete-Call (ISO/IEC 24727-3:2008, 8.8.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.7).
7F8F6D	Card-Application interface Service : CardApplicationServiceDescribeCall	Marshalling of the call returning a URL or full description of the named card-application-service, whereby allowing the client-application to discover functionality beyond the standardized set of card-application-services described in ISO/IEC 24727-3 (ISO/IEC 24727-3:2008, 8.9 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.8).
7F8F6E	Card-Application interface Service : CardApplicationServiceDescribeReturn	Marshalling of the response to CardApplicationService-Describe-Call (ISO/IEC 24727-3:2008, 8.9.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.8).
7F8F6F	Card-Application interface Service : ExecuteActionCall	Marshalling of the call requesting access to an action in a card-application-service that is not defined in ISO/IEC 24727-3 (ISO/IEC 24727-3:2008, 8.10 and ISO/IEC 24727-3:2008/Cor 1:2010, C.5.9).
7F8F70	Card-Application interface Service : ExecuteActionReturn	Marshalling of the response to ExecuteActionCall (ISO/IEC 24727-3:2008, 8.10.5 ISO/IEC 24727-3:2008/Cor 1:2010, C.5.9).

Table 8 (continued)

Tag	Name of data element for remote SAL API call	Description and reference
7F8F71	Named Data interface Service : DataSetListCall	Marshalling of the call listing the names of data-sets defined in the current card-application (ISO/IEC 24727-3:2008, 9.2 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.1).
7F8F72	Named Data interface Service : DataSetListReturn	Marshalling of the response to DataSetListCall (ISO/IEC 24727-3:2008, 9.2.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.1).
7F8F73	Named Data interface Service : DataSetCreateCall	Marshalling of the call creating a new data-set in the current card-application (ISO/IEC 24727-3:2008, 9.3 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.2).
7F8F74	Named Data interface Service : DataSetCreateReturn	Marshalling of the response to DataSetCreateCall (ISO/IEC 24727-3:2008, 9.3.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.2).
7F8F75	Named Data interface Service : DataSetSelectCall	Marshalling of the call selecting the named data-set in the current card-application (ISO/IEC 24727-3:2008, 9.4 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.3).
7F8F76	Named Data interface Service : DataSetSelectReturn	Marshalling of the response to DataSetSelectCall (ISO/IEC 24727-3:2008, 9.4.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.3).
7F8F77	Named Data interface Service : DataSetDeleteCall	Marshalling of the call deleting the named data-set within the current card-application including all of the DSIs within that data-set (ISO/IEC 24727-3:2008, 9.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.4).
7F8F78	Named Data interface Service : DataSetDeleteReturn	Marshalling of the response to DataSetDeleteCall (ISO/IEC 24727-3:2008, 9.5.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.4).
7F8F79	Named Data interface Service : DSIListCall	Marshalling of the call listing the names of DSIs in the current data-set (ISO/IEC 24727-3:2008, 9.6 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.5).
7F8F7A	Named Data interface Service : DSIListReturn	Marshalling of the response to DSIListCall (ISO/IEC 24727-3:2008, 9.6.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.5).
7F8F7B	Named Data interface Service : DSICreateCall	Marshalling of the call creating a new DSI in the current data-set (ISO/IEC 24727-3:2008, 9.7 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.6).
7F8F7C	Named Data interface Service : DSICreateReturn	Marshalling of the response to DSICreateCall (ISO/IEC 24727-3:2008, 9.7.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.6).
7F8F7D	Named Data interface Service : DSIDeleteCall	Marshalling of the call deleting the named DSI from the current data-set (ISO/IEC 24727-3:2008, 9.8 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.7).
7F8F7E	Named Data interface Service : DSIDeleteReturn	Marshalling of the response to DSIDeleteCall (ISO/IEC 24727-3:2008, 9.8.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.7).
7F8F7F	Named Data interface Service : DSIWriteCall	Marshalling of the call replacing the contents of the named DSI in the current data-set with the data provided (ISO/IEC 24727-3:2008, 9.9 and ISO/IEC 24727-3:2008/Cor 1, C.6.8).
7F9000	Named Data interface Service : DSIWriteReturn	Marshalling of the response to DSIWriteCall (ISO/IEC 24727-3:2008, 9.9.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.8).
7F9001	Named Data interface Service : DSIReadCall	Marshalling of the call returning the contents of the named DSI in the current data-set (ISO/IEC 24727-3:2008, 9.10 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.9).
7F9002	Named Data interface Service : DSIReadReturn	Marshalling of the response to DSIReadCall (ISO/IEC 24727-3:2008, 9.10.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.6.9).
7F9003	Cryptographic interface Service : EncipherCall	Marshalling of the call enciphering the provided data according to the cryptographic operation specified in the authentication protocol in the named differential-identity (ISO/IEC 24727-3:2008, 10.2 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.1).
7F9004	Cryptographic interface Service : EncipherReturn	Marshalling of the response to EncipherCall (ISO/IEC 24727-3:2008, 10.2.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.1).

Table 8 (continued)

Tag	Name of data element for remote SAL API call	Description and reference
7F9005	Cryptographic interface Service : DecipherCall	Marshalling of the call deciphering the provided data according to the cryptographic operation of the protocol in the named differential-identity (ISO/IEC 24727-3:2008, 10.3 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.2).
7F9006	Cryptographic interface Service : DecipherReturn	Marshalling of the response to DecipherCall (ISO/IEC 24727-3:2008, 10.3.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.2).
7F9007	Cryptographic interface Service : GetRandomCall	Marshalling of the call returning a random value generated in accordance with the protocol of the named differential-identity (ISO/IEC 24727-3:2008, 10.4 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.3).
7F9008	Cryptographic interface Service : GetRandomReturn	Marshalling of the response to GetRandomCall (ISO/IEC 24727-3:2008, 10.4.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.3).
7F9009	Cryptographic interface Service : HashCall	Marshalling of the call to hash the provided message according to the authentication protocol and marker of the named differential-identity (ISO/IEC 24727-3:2008, 10.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.4).
7F900A	Cryptographic interface Service : Hashreturn	Marshalling of the response to HashCall (ISO/IEC 24727-3:2008, 10.5.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.4).
7F900B	Cryptographic interface Service : SignCall	Marshalling of the call to sign the provided message according to the authentication protocol and marker of the named differential-identity (ISO/IEC 24727-3:2008, 10.6 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.5).
7F900C	Cryptographic interface Service : SignReturn	Marshalling of the response to SignCall (ISO/IEC 24727-3:2008, 10.6.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.5).
7F900D	Cryptographic interface Service : VerifySignCall	Marshalling of the call performing the verification of a digital signature using the authentication protocol and marker of the named differential-identity (ISO/IEC 24727-3:2008, 10.7 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.6).
7F900E	Cryptographic interface Service : VerifySignReturn	Marshalling of the response to VerifySignCall (ISO/IEC 24727-3:2008, 10.7.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.6).
7F900F	Cryptographic interface Service : VerifyCertificateCall	Marshalling of the call performing the verification of a digital certificate using the authentication protocol and marker of the named differential-identity (ISO/IEC 24727-3:2008, 10.8 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.7).
7F9010	Cryptographic interface Service : VerifyCertificateReturn	Marshalling of the response to VerifyCertificateCall (ISO/IEC 24727-3:2008, 10.8.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.7.7).
7F9011	Differential-Identity interface Service : DIDListCall	Marshalling of the call listing the names of the differential-identities defined within the current card-application (ISO/IEC 24727-3:2008, 11.2 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.1).
7F9012	Differential-Identity interface Service : DIDListReturn	Marshalling of the response to DIDListCall (ISO/IEC 24727-3:2008, 11.2.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.1).
7F9013	Differential-Identity interface Service : DIDCreateCall	Marshalling of the call creating a new differential-identity within the current card-application (ISO/IEC 24727-3:2008, 11.3 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.2).
7F9014	Differential-Identity interface Service : DIDCreateReturn	Marshalling of the response to DIDCreateCall (ISO/IEC 24727-3:2008, 11.3.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.2).
7F9015	Differential-Identity interface Service : DIDGetCall	Marshalling of the call returning information about a differential-identity recognized in the current card-application (ISO/IEC 24727-3:2008, 11.4 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.3).
7F9016	Differential-Identity interface Service : DIDGetReturn	Marshalling of the response to DIDGetCall (ISO/IEC 24727-3:2008, 11.4.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.3).