भारतीय मानक

Indian Standard

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पहचान कार्ड्स — इंटेग्रेटेड सर्किट कार्ड्स

भाग 6 इंटरइंडस्ट्री डाटा एलीमेन्ट्स इंटरचेंज के लिए

(तीसरा पुनरीक्षण)

Identification Cards — Integrated Circuit Cards

Part 6 Interindustry Data Elements for Interchange

(Third Revision)

ICS 35.240.15

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NATIONAL FOREWORD

This Indian Standard (Part 6) (Third Revision) which is identical to ISO/IEC 7816-6 : 2023 'Identification cards Integrated circuit cards — Part 6: Interindustry data elements for interchange' issued by ISO 'International Organization Standardization' and IEC 'International Electrotechnical Commission' was adopted by the Bureau of Indian Standards on the recommendation of the Identification & Data capture techniques, Cards and Security Devices Sectional Committee and after approval of the Electronics and Information Technology Division Council.

This standard was first published in 2003 and subsequently revised in 2013 and 2018. The original version of this standard was identical to ISO/IEC 7816-6 : 1996 issued by ISO and IEC. The first revision was based on ISO/IEC 7816-6 : 2004. The second revision was based on ISO/IEC 7816-6 : 2016 and this revision of this standard has been brought out to align it with the latest version of ISO/IEC 7816-6 : 2023.

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

a) The data format of IC manufacturer ID has been extended from a single byte to multiple bytes.

This standard is published in several parts. Other parts in this series are:

Part 1 Physical characteristics

Part 2 Dimensions and location of the contacts

Part 3 Electrical interface and transmission protocols

Part 4 Organization, security and commands for interchange

Part 5 Registration of application providers

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"

The text of ISO/IEC standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appears referring to this standard, they should be read as 'Indian Standard'; and

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

(*Continued on third cover*)

Contents

Page

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.

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

Indian Standard

IDENTIFICATION CARDS — INTEGRATED CIRCUIT CARDS

PART 6 INTERINDUSTRY DATA ELEMENTS FOR INTERCHANGE

(Third Revision)

1 Scope

This document specifies directly or by reference, data elements, including composite data elements that are applicable to 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 the ISO/IEC 7816 series).

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

This document 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 document.

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 by ISO/IEC JTC 1/SC 17.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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/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 10918-1, *Information technology — Digital compression and coding of continuous-tone still images: 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.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
cardholder
end user of the security device

3.2
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 7816-4:2020, 3.15]

3.3
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 7816-4:2020, 3.16]

3.4
template
concatenation of BER-TLV *data objects* (3.3) 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 7816-4:2020, 3.59, modified — Note 1 to entry has been added.]

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
BER-TLV	basic encoding rules – tag length value

NOTE 1 For BCD several encodings exist, e.g. packed and unpacked. The letter 'n' covers all of them unless specified otherwise.

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

EXAMPLE

— a3 means three alphabetic characters;

— n..100 means up to 100 digits, lower boundary out of scope for this document (possibly zero, one or any number lower or equal to 100);

— n2..4 means two, three or four numeric 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 bit-string representing the data element is right-padded with bits set to '1' until the length of the padded bit-string is a multiple of eight.

YDDD	last digit of year concatenated with day of year on three digits
YDDDHHMMSS	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 2 The former 3-period notation being equivalent to 2-period notation 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 document. To allow the introduction, deletion, or amendment of any data object, the following procedures shall be adopted:

— **Interindustry data objects from the ISO/IEC 7816 series** — Following the publication of any part of the ISO/IEC 7816 series that introduces new data objects, these data objects will be incorporated into this document 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 a successful ballot, the data objects will be incorporated into this document.

— **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 the ISO/IEC 7816 series.

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 in accordance with 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.

— **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 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

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.

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 Tag '5F4B' for referencing identifiers is deprecated in the ISO/IEC 7816 series, because two different definitions existed within that series.

The identifier consists of one or more byte. The identifier shall be coded according to Table 4 and Table 5.

Table 4 — First identifier byte

Value	Meaning
'00'	No information given
'01' .. '7E'	Reserved for the register of one byte identifier
'7F', '80'	Reserved for future use by ISO/IEC JTC 1/SC 17
'81' .. 'FE'	Proprietary
'FF'	Reserved for register of identifiers with more than one byte, at least one subsequent identifier byte follows, see Table 5

Table 5 — Subsequent identifier bytes

Value	Meaning
'xx'	If bit b8 equals 1: Another identifier byte follows. If bit b8 equals 0: Last byte of identifier. Bits b7 to b1 contain arbitrary values. The integrated circuit manufacturer identifier is represented by the sequence of bytes starting with 'FF' up to and including the last byte of the sequence.

7.3 Rules for assignment

The name and contact information of the maintenance agency for this integrated circuit manufacturer identifiers can be found at www.iso.org/maintenance_agencies. Such identifiers will be assigned according to the following rules:

a) the assignment is made upon request from any integrated circuit manufacturer or any interested party;

b) the form contained in Annex A should be used to request an assignment;

c) a single number shall be assigned to each manufacturer;

d) the last assigned number shall be incremented by one to build the newly assigned number (i.e. only if all available n-byte values have been assigned, the assignment of (n+1)-byte identifier shall start);

NOTE 1 'FF00' is the first two byte identifier. 'FF7F' is the last two byte identifier. 'FF8000' is the first three byte identifier. 'FFFF7F' is the last three byte identifier. Incrementing the identifier value 'FF807F' by one leads to the value 'FF8100'.

NOTE 2 Between 2007 and 2018 an average of approximately six identifiers have been assigned per year. Keeping up that rate it follows that the first two byte identifier is expected soon, in 2040 the first three byte IC manufacturer is expected and 2700 years later the first four byte identifier is expected. If the rate of assigning increases from six per year to one per day then the first four byte identifier is expected in approximately the year 2060.

WARNING — As pointed out by NOTE 2 it is expected that the length of assigned integrated circuit manufacturer identifier possibly increases from one byte to two bytes soon.

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 the ISO/IEC 7816 series. Table 6 shows interindustry data objects reserved for interchange profile.

Table 6 — 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 7 lists interindustry data elements in alphabetic order, with description, reference, tag, length and format where appropriate.

NOTE 1 Whenever widely used, for example, in published specifications, Data element acronyms are indicated and their first character is in capital letter.

NOTE 2 The encoding format is out of scope unless a standard is referenced or a definition is given. This applies especially for combinations of abbreviations as in 'an' or 'ans'.

Table 7 — 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	—

[a] This data element should be encoded as unpacked BCD.

Table 7 *(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 an11	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	ans2..26	65
Cardholder nationality	Nationality of the cardholder (coding defined in ISO 3166-1)	5F2C	n3	65
Cardholder portrait image	Encoded image data, used for the cardholder portrait image (format defined in ISO/IEC 10918-1)	5F40	variable	6C

[a] This data element should be encoded as unpacked BCD.

Table 7 *(continued)*

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
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 effective date (CED)	Date from which the certificate can be used	5F25	n6/YYMMDD[a]	7F4E
Certificate expiration date (CXD)	Date after which a certificate expires	5F24	n6/YYMMDD[a]	7F4E
Certificate holder authorization	Deprecated (see 7.2 and NOTE under Table 8)	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 (CHAT)	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	—

[a] This data element should be encoded as unpacked BCD.

Table 7 *(continued)*

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
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
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 (all parts)	53	variable	Interindustry template
Discretionary data objects template	Concatenation of data objects not defined in ISO/IEC 7816 (all parts)	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	—

[a] This data element should be encoded as unpacked BCD.

Table 7 *(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 7816-4:2020, 12.8.1) 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
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

[a] This data element should be encoded as unpacked BCD.

Table 7 *(continued)*

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
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 7812-1 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	—
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

[a] This data element should be encoded as unpacked BCD.

Table 7 *(continued)*

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
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
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

[a] This data element should be encoded as unpacked BCD.

Table 7 *(continued)*

Data element	Description and reference	Tag (hex)	Length/format	May be found within template
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/YDDDHHMMSS	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 RFC 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	—
[a] This data element should be encoded as unpacked BCD.				

10 Interindustry tags in numeric order

Table 8 lists interindustry 1-byte, 2-byte or 3-byte tags in numeric order. Table 9 lists interindustry 3-byte tags for ISO/IEC 24727 service access layer (SAL) application programming interface (API) marshalling/unmarshalling (see ISO/IEC 24727-3 and ISO/IEC 24727-4) in numeric order.

Table 8 — 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
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

Table 8 *(continued)*

Tag	Name of data element
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
5F20	Cardholder name
5F21	Track 1 (card)
5F22	Track 2 (card)
5F23	Track 3 (card)
5F24	Application expiration date, or certificate expiration date
5F25	Application effective date, or certificate 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

Table 8 *(continued)*

Tag	Name of data element
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
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

Table 8 *(continued)*

Tag	Name of data element
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 Tag '5F4B' for referencing identifiers is deprecated in the ISO/IEC 7816 series, because two different definitions existed within that series.

Table 9 — 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).

Table 9 *(continued)*

Tag	Name of data element for remote SAL API call	Description and reference
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 : CardApplicationDisconnect Return	Marshalling of the response to CardApplication-DisconnectCall (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 : CardApplicationStartSession Return	Marshalling of the response to CardApplicationStart-SessionCall (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 : CardApplicationEndSession Return	Marshalling of the response to CardApplicationEnd-SessionCall (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).
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 : CardApplication ServiceListCall	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 : CardApplication ServiceListReturn	Marshalling of the response to CardApplicationService-ListCall (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 : CardApplication ServiceCreateCall	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 : CardApplication ServiceCreateReturn	Marshalling of the response to CardApplicationService-CreateCall (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 : CardApplication ServiceLoadCall	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 : CardApplication ServiceLoadReturn	Marshalling of the response to CardApplicationService-LoadCall.
7F8F6B	Card-application interface service : CardApplication ServiceDeleteCall	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).

Table 9 *(continued)*

Tag	Name of data element for remote SAL API call	Description and reference
7F8F6C	Card-application interface service : CardApplication ServiceDeleteReturn	Marshalling of the response to CardApplicationService-DeleteCall (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 : CardApplication ServiceDescribeCall	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 : CardApplication ServiceDescribeReturn	Marshalling of the response to CardApplicationService-DescribeCall (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).
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 dervice : 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).

Table 9 *(continued)*

Tag	Name of data element for remote SAL API call	Description and reference
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 sata 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).
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).

Table 9 *(continued)*

Tag	Name of data element for remote SAL API call	Description and reference
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).
7F9017	Differential-identity interface Service : DIDUpdateCall	Marshalling of the call storing or generating new marker for the named differential-identity defined within the current card-application appropriate for its existing protocol (ISO/IEC 24727-3:2008, 11.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.4).
7F9018	Differential-identity interface Service : DIDUpdateReturn	Marshalling of the response to DIDUpdateCall (ISO/IEC 24727-3:2008, 11.5.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.4).
7F9019	Differential-identity interface Service : DIDDeleteCall	Marshalling of the call deleting the named differential-identity defined in the current card-application (ISO/IEC 24727-3:2008, 11.6 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.5).
7F901A	Differential-identity interface Service : DIDDeleteReturn	Marshalling of the response to DIDDeleteCall (ISO/IEC 24727-3:2008, 11.6.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.5).
7F901B	Differential-identity interface Service : DIDAuthenticateCall	Marshalling of the call performing the authentication protocol of the named differential-identity recognized in the current card-application (ISO/IEC 24727-3:2008, 11.7 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.6).
7F901C	Differential-identity interface Service : DIDAuthenticateReturn	Marshalling of the response to DIDAuthenticateCall (ISO/IEC 24727-3:2008, 11.7.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.8.6).
7F901D	Authorization interface service : ACLListCall	Marshalling of the call returning the access control list for the named target (ISO/IEC 24727-3:2008, 12.2 and ISO/IEC 24727-3:2008/ Cor 1:2010, C.9.1).
7F901E	Authorization interface service : ACLListReturn	Marshalling of the response to ACLListCall (ISO/IEC 24727-3:2008, 12.2.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.9.1).
7F900F	Authorization interface service : ACLModifyCall	Marshalling of the call modifying the access rule for the named action within the access control list of the named target (ISO/IEC 24727-3:2008, 12.3 and ISO/IEC 24727-3:2008/Cor 1:2010, C.9.2).
7F9020	Authorization interface service : ACLModifyReturn	Marshalling of the response to ACLModifyCall (ISO/IEC 24727-3:2008, 12.3.5 and ISO/IEC 24727-3:2008/Cor 1:2010, C.9.2).
7F9035	Interface data type choice : ServiceChoice	Choice of the remote SAL API service type (ISO/IEC 24727-3:2008/ Cor 1:2010, C.3)
7F9036	Interface data type choice : APIAccessChoice	Remote SAL API service type (ISO/IEC 24727-3:2008/Cor 1:2010, C.3)
7F9037	Interface data type choice : ConnectionServiceChoice	Remote SAL API service type (ISO/IEC 24727-3:2008/Cor 1:2010, C.3)
7F9038	Interface data type choice : CardApplicationServiceChoice	Remote SAL API service type (ISO/IEC 24727-3:2008/Cor 1:2010, C.3)
7F9039	Interface data type choice : NamedDataServiceChoice	Remote SAL API service type (ISO/IEC 24727-3:2008/Cor 1:2010, C.3)
7F903A	iInterface data type choice : CryptographicServiceChoice	remote SAL API service type (ISO/IEC 24727-3:2008/Cor 1:2010, C.3)
7F903B	Interface data type choice : DifferentialIdentityServiceChoice	remote SAL API service type (ISO/IEC 24727-3:2008/Cor 1:2010, C.3)
7F903C	Interface data type choice : AuthorizationServiceChoice	remote SAL API service type (ISO/IEC 24727-3:2008/Cor 1:2010, C.3)

11 Interindustry templates

11.1 Interindustry data objects within interindustry templates

The following interindustry templates (see Table 10, Table 11, Table 12, Table 13, Table 14 and Table 15) may be used when there is a need to nest interindustry data objects. Compatible and coexistent tag allocation schemes may use further templates (see ISO/IEC 7816-4). The order of the templates and the order of the data objects within the templates are not significant, unless otherwise specified.

Table 10 — Application template (tag '61')

Tag	Data element
4F	Application identifier (AID)
50	Application label
52	Command-to-perform
53	Discretionary data
73	Discretionary data objects
51	File reference
5F50	Universal resource locator

Table 11 — Cardholder related data (tag '65')

Tag	Data element
5F42	Address
5F2E	Cardholder biometric data
7F21	Cardholder certificate
5F43	Cardholder handwritten signature image
6C	Cardholder image template
5F20	Cardholder name
5F2C	Cardholder nationality
5F40	Cardholder portrait image
5F49	Cardholder public key
7F49	Cardholder public key template
5F48	Cardholder private key
7F48	Cardholder private key template
7F23	Cardholder requirements, excluded features
7F22	Cardholder requirements, included features
5F2B	Date of birth
53	Discretionary data
73	Discretionary data objects
5F2D	Language preferences
5B	Name
5F4A	Public key of certification authority
6B	Qualified name
5F35	Sex
68	Special user requirements

Table 12 — Card data (tag '66')

Tag	Data element
47	Card capabilities
5F26	Card effective date
59	Card expiration date
45	Card issuer's data
5F34	Card sequence number
5F28	Country code
5F55	Country code (alpha 2 format)
5F56	Country code (alpha 3 format)
53	Discretionary data
73	Discretionary data objects
7F20	Display control
5F45	Display message
44	Initial access data
5F4D	Integrated circuit manufacturer identifier
5F27	Interchange control
5F47	Message reference
46	Pre-issuing data
5F46	Timer
5F21	Track 1 (card)
5F22	Track 2 (card)
5F23	Track 3 (card)

Table 13 — Authentication data (tag '67')

Tag	Data element
53	Discretionary data
73	Discretionary data objects
5F3B	Dynamic external authentication
5F3A	Dynamic internal authentication
5F3C	Dynamic mutual authentication
5F29	Interchange profile
5F37	Static internal authentication (one-step)
5F38	Static internal authentication, first associated data
5F39	Static internal authentication, second associated data

Table 14 — Application related data (tag '6E')

Tag	Data element
5F57	Account type
5F25	Application effective date
5F24	Application expiration date
4F	Application identifier
6D	Application image template
50	Application label
5F54	Business identifier code (BIC) formerly called bank identifier code

Table 14 *(continued)*

Tag	Data element
5F2A	Currency code
5F36	Currency exponent
53	Discretionary data
73	Discretionary data objects
5F53	International bank account number
5E	Login data (proprietary)
6A	Login template
5F2F	PIN usage policy
5A	Primary account number (PAN)
5F30	Service code
56	Track 1 (application)
57	Track 2 (application)
58	Track 3 (application)
5F32	Transaction counter
5F33	Transaction date

11.2 Interindustry templates defining a context

The ISO/IEC 7816 series and ISO/JTC 1/SC 17 reserves the context-specific class (e.g. first byte in the range ‘80’ to 'BF') in the following interindustry templates.

Table 15 — Interindustry templates defining a context

Tag	Data element	Reference
62	Control parameters (CP) template	ISO/IEC 7816-4
64	File management data (FMD) template	ISO/IEC 7816-4
6A	Login template	ISO/IEC 7816-6
6F	FCI template	ISO/IEC 7816-4
7A	Security support template	ISO/IEC 7816-4
7B	Security environment template	ISO/IEC 7816-4
7C	Dynamic authentication template	ISO/IEC 7816-4
7D	Secure messaging template	ISO/IEC 7816-4
7F22	Cardholder requirements, included features	ISO/IEC 12905
7F23	Cardholder requirements, excluded features	ISO/IEC 12905
7F2E	Biometric data template	ISO/IEC 7816-11
7F48	Cardholder private key template	ISO/IEC 7816-8
7F49	Cardholder public key template	ISO/IEC 7816-8
7F60	Biometric information template	ISO/IEC 7816-11
7F62	Card capability description template	ISO/IEC 24727
7F63	Application capability description template	ISO/IEC 24727
7F64	Card management service template	ISO/IEC 7816-13
7F65	Memory resource assignment template	ISO/IEC 7816-13
7F74	General features management template	ISO/IEC 7816-4

Annex A
(informative)

Application for integrated circuit manufacturers number

This application is submitted in accordance with ISO/IEC 7816-6.

TO BE COMPLETED BY THE APPLICANT (IC Manufacturer) please type or print

<table>
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<tr><td colspan="3">Address to be registered:</td></tr>
<tr><td colspan="3">Principal contact in organization</td></tr>
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<tr><td colspan="3">Address for correspondence (if different to above):</td></tr>
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</table>

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The maintenance agency - For contact details please refer to:

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Bibliography

[1] ISO 639-1, *Codes for the representation of names of languages — Part 1: Alpha-2 code*

[2] ISO/IEC 646, *Information technology — ISO 7-bit coded character set for information interchange*

[3] ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes*

[4] ISO 4217, *Codes for the representation of currencies*

[5] ISO/IEC 5218, *Information technology — Codes for the representation of human sexes*

[6] ISO/IEC 7501-1, *Identification cards — Machine readable travel documents — Part 1: Machine readable passport*

[7] ISO/IEC 7812-1, *Identification cards — Identification of issuers — Part 1: Numbering system*

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

[9] ISO 8583-1, *Financial transaction card originated messages — Interchange message specifications — Part 1: Messages, data elements and code values*

[10] ISO/IEC 8825-1, *Information technology — ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER) — Part 1:*

[11] ISO/IEC 8859-1, *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1*

[12] ISO 9362, *Banking — Banking telecommunication messages — Business identifier code (BIC)*

[13] ISO/IEC 9798 (all parts), *IT Security techniques — Entity authentication*

[14] ISO/IEC 10536 (all parts), *Identification cards — Contactless integrated circuit(s) cards — Close-coupled cards*

[15] ISO/IEC 12905, *Integrated circuit cards — Enhanced terminal accessibility using cardholder preference interface*

[16] ISO 13616-1, *Financial services - International bank account number (IBAN) — Part 1: Structure of the IBAN*

[17] ISO/IEC 14443 (all parts), *Cards and security devices for personal identification — Contactless proximity objects*

[18] ISO/IEC 15693 (all parts), *Cards and security devices for personal identification — Contactless vicinity objects*

[19] ISO/IEC 24727 (all parts), *Identification cards — Integrated circuit card programming interfaces*

[20] EN 1332-4, *Identification card systems — Man-machine interface — Part 4: Coding of user requirements for people with special needs*

[21] IETF RFC 1738:1994, *Uniform resource locators (URL)*

[22] IETF RFC 2396:1998, *Uniform resource locators (URL): General syntax*

[23] EMV Integrated Circuit Card Specification for Payment Systems, Book 3, Version 4.3, November 2011

(*Continued from second cover*)

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their places, are listed below along with their degree of equivalence for editions indicated. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendment:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO/IEC 4909, Identification cards — Financial transaction cards — Magnetic stripe data content for track 3	IS 15414 : 2018/ISO/IEC 4909 : 2006 Identification cards — Financial transaction cards — Magnetic stripe data content for track 3 (*first revision*)	Identical
ISO/IEC 7813, Information technology — Identification cards — Financial transaction cards	IS 14174 : 2013/ISO/IEC 7813 : 2006 Information technology — Identification cards — Financial transaction cards (*first revision*)	Identical

The Committee has reviewed the provisions of following International Standards referred in this adopted standard and has decided that they are acceptable for use in conjunction with this standard. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendment.

International Standard	*Title*
ISO/IEC 10918-1	Information technology — Digital compression and coding of continuous-tone still images: Requirements and guidelines
ISO/IEC 11544	Information technology — Coded representation of picture and audio information progressive bi-level image compression

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be same as that of the specified value in this standard.

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Amendments Issued Since Publication

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