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AMENDMENT 1
2014-04-01

**Identification cards — Integrated
circuit card programming
interfaces —**

**Part 2:
Generic card interface**

AMENDMENT 1
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*Cartes d'identification — Interfaces programmables de cartes à
puce —*

ISO/IEC 24727-2:2008/Amd 1:2014

Partie 2: Interface de carte générique

<https://standards.iteh.ai/catalog/standards/sist/5cb0ca2-d1cf-4b23-b886-4d22ea7b>

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[ISO/IEC 24727-2:2008/Amd 1:2014](https://standards.iteh.ai/catalog/standards/sist/f5cb0ca2-d1cf-4b23-b886-4d22ea7b71f7/iso-iec-24727-2-2008-amd-1-2014)
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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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.

Amendment 1 to ISO/IEC 24727-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

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Identification cards — Integrated circuit card programming interfaces —

Part 2: Generic card interface

AMENDMENT 1

Page 2, Clause 3

Insert the following new terms and definitions and renumber the current 3.3 as 3.5:

3.3

legacy card

integrated circuit card which is not personalized for the ISO/IEC 24727 standard

3.4

procedural element

software that can be accessed to provide manipulation of specific interface commands within a processing layer

cf. **translation code**

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Page 4, 5.1.3

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Add the following row at the end of Table 2:
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ENVELOPE	'C3'	A	None
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Page 13

Add the following new subclause at the end of Clause 6:

6.5 Discovery Mechanism for Legacy Cards

Cards in the field for which post-issuance personalization may turn too expensive require a practical means to fit easily in a ISO/IEC 24727 framework. To leverage access for these legacy-cards to ISO/IEC 24727 enabled e-services (client-application), card issuers may deliver to Service Providers a card discovery registry respective to each type of card so that to have it recognized at bootstrap. In relation to this card discovery registry, either an ACD or ISO/IEC 7816-15 based or XML-based CardInfo shall be made available to the service provider for a whole description of card capabilities involved in the transaction with the ISO/IEC 24727 enabled client-application.

ASN.1 definition for legacy-card discovery

6.5.1 The CardDiscovery Module

```
ISO24727-2-CardDiscovery {iso(1) standard(0) iso24727(24727) part2(2) annexY(Y) }
-- Version 1.2, 15-Dec-2010
-- annex Y to be defined
--
DEFINITIONS AUTOMATIC TAGS EXTENSIBILITY IMPLIED ::=
BEGIN
```

ISO/IEC 24727-2:2008/Amd.1:2014(E)

```
--EXPORTS (all)
IMPORTS URL
FROM ISO24727-COMMON { iso(1) standard(0) iso24727(24727) };
-- Major and Minor Revision values for this ASN.1 Module
revMajISO24727-2-CardDiscovery INTEGER ::= 1
revMinISO24727-2-CardDiscovery INTEGER ::= 2

-- 1. Data Types

cardType ::= CardType
CardType ::= SEQUENCE {
    atr    ATR OPTIONAL,
    ats    ATS OPTIONAL,
    efATRorINFO EFATRorINFO OPTIONAL,
    efDIR    EFDIR OPTIONAL,
    apduCRP SEQUENCE OF APDUCRP OPTIONAL,
    CardRegistryLocation URL,
}

-- ref. ISO/IEC 7816-3
ATR ::= SEQUENCE {
    tsByte TS,
    atrt0Byte T0ATR,
    atrInterfaceBytes ATRInterfaceBytes OPTIONAL,
    historicalBytes HistoricalBytes OPTIONAL,
    tckByte TCK
}

-- ref. ISO/IEC 14443-4
ATS ::=SEQUENCE{
    tlByte TL,
    atst0Byte T0ATS OPTIONAL, -- only present if TL>1
    atsInterfaceBytes ATSInterfaceBytes OPTIONAL,
    historicalBytes HistoricalBytes OPTIONAL,
    crc1Byte CRC1,
    crc2Byte CRC2
}

TS ::= BitMask
T0ATR ::= BitMask
ATRInterfaceBytes ::= BitMask
TCK ::= BitMask
TL ::= BitMask
T0ATS ::= BitMask

ATSInterfaceBytes ::=SEQUENCE{
    ta1 TA1 OPTIONAL,
    tb1 TB1 OPTIONAL,
    tc1 TC1 OPTIONAL
}

TA1 ::= BitMask
TB1 ::= BitMask
TC1 ::= BitMask

HistoricalBytes ::= BitMask
CRC1 ::= BitMask
CRC2 ::= BitMask

BitMask ::=SEQUENCE{
    outputValue OCTET STRING,
    maskToApply OCTET STRING,
    operationToApply ENUMERATED {xor(0),and(1), or(2), not(3)}
}

EFATRorINFO ::= CHOICE {
    apduCRP SEQUENCE OF APDUCRP,
    bitMask BitMask
}

EFDIR ::= CHOICE {
```

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```

    apduCRP SEQUENCE OF APDUCRP,
    bitMask BitMask
}

APDUCRP ::= SEQUENCE{
    apduCMD CAPDU,
    apduRSP RAPDU
}

CAPDU ::= OCTET STRING
RAPDU ::= BitMask

END

```

6.5.2 Example use of CardDiscovery Module

Once the DER TLV comprising the CardDiscovery Registry is parsed, for each information collected from the card (ATR, ATS, EF.DIR, EF.ATR/INFO, specific C-RP acc. CAPDU/RAPDU) according CardType value, a bitmask verification is applied. This bitmask verification proceeds as follows:

```

BitMask ::=SEQUENCE{
    outputValue OCTET STRING,
    maskToApply OCTET STRING,
    operationToApply ENUMERATED{xor(0),and(1), or(2), not(3)}
}

```

The terminal executes a binary operation as indicated in operationToApply attribute, between the *maskToApply* operand and the collected information or CardType attribute, then the terminal compares the resulting value with the outputValue attribute; if they equate, the terminal records the fit and so on till the complete set of possible fits are scanned. If and only if all comparisons match, the terminal concludes that the just processed CardDiscovery registry relates to the card currently being plugged in the reader. If so, the terminal reads the CardRegistryLocation attribute from CardType and gets to the indicated URL to download the complete Card Registry (either ACD or ISO/IEC 7816-15 based or XML-based CardInfo).

If all bitmask verifications are done with no resulting fit, the terminal proceed with the next CardDiscovery Registry available and so on.

If no fit at all is obtained with the available CardDiscovery Registries, the terminal aborts the transaction with the card : the card is not ISO/IEC 24727-enabled.

Example of bitmask verification : maskToApply XOR HistoricalBytes =? outputValue

6.5.3 CardDiscovery Registry integrity

In case the environment is not trusted or in order to prevent misrecognition of a card, the CardType may contains an additional attribute describing the signature algorithm so that the terminal could verify the signature applied onto the CardType and check its integrity before parsing it.

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