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Health informatics — Health cards — Numbering system and registration procedure for issuer identifiers

Informatique de santé — Cartes de santé — Système de numérotation et mode opératoire d'enregistrement pour les identificateurs d'émetteur

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 ISO documents 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 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 of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC *215*, *Health informatics*.

This third edition cancels and replaces the second edition (ISO 20302:2014), which has been technically revised.

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

— update of the description of IIN for consistency with the latest edition of ISO/IEC 7812-1 and ISO/IEC 7812-2.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document describes a numbering system and registration procedure for issuing identifiers of machine-readable cards used in the field of healthcare.

The purpose of using machine-readable cards in the field of healthcare is to improve the quality of the health service and increase the efficient use of healthcare resources in the field. The primary consideration in creating this document has been to improve patient service and patient safety, as well as improve the practical use of healthcare data cards in clinical fields.

a) The following are outside the scope of this document:

   — standardizing the clinical practice of medicine,

   — defining a standardized healthcare delivery service structure,

   — the characteristics and operation of other cards, which are not covered by this document.

In past years, healthcare data cards have been used to exchange healthcare data by placing necessary and appropriate information on the surface of the cards in order to implement the health service of each country. However, as people now move more frequently across borders, healthcare data cards issued in one country or area are increasingly being used in another and, with this consideration in mind, this document has been designed to apply to healthcare data cards that will be used internationally.

b) This document is applicable to healthcare data cards used for healthcare services provided by the card issuer.

c) The numbering system and registration procedure is technology independent and designed to fit relevant technologies and recording techniques for healthcare data cards.

The data elements and data structures in healthcare data cards are standardized in ISO 21549 (all parts).

Health informatics — Health cards — Numbering system and registration procedure for issuer identifiers

1 Scope

This document specifies a numbering system and registration procedure for identifying both healthcare application providers and health card holders in order to exchange information through the use of cards issued for healthcare services.

This document focuses on the machine-readable cards of ID-1 type defined in ISO/IEC 7810 that are issued for healthcare services provided in a service area that crosses the national borders of two or more countries/areas.

This document applies to healthcare data cards where the issuer and the application provider are the same party.

This document applies directly, or refers, to existing International Standards for physical characteristics and recording techniques. Security issues follow the requirements of each healthcare data card system.

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 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code*

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

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

ISO/IEC 7816-5, *Identification cards — Integrated circuit cards — Part 5: Registration of application providers*

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
card issuer
entity that records the information to activate the card and registers and distributes it to the healthcard holder

EXAMPLE A hospital can be a card issuer of cards for handling appointments for medical treatment or for accessing medical records. A health funding agency can be a card issuer of cards for health funding.

3.2
healthcare application provider
entity that provides healthcare services to the healthcard holder and, in doing so, makes use of the card and records the healthcare application information on to the card

EXAMPLE A hospital can be a healthcare application provider by handling appointments for medical treatment or by providing access control to medical records. A health funding agency can be a healthcare application provider by issuing cards for health funding. A health funding agency can also be a healthcare application provider by certifying the health funding status of the healthcard holder.

Note 1 to entry: If the card contains an application for medical appointments, while a hospital can be an application provider as it provides appointment services to the patients, it can also be a user of the card if the card contains an application for health funding services, as the hospital may get reimbursed from the health funding agency.

3.3
healthcare data card
machine-readable card, conformant to ISO/IEC 7810, intended for use within the healthcare domain

[SOURCE: ISO 21549-2:2014]

4 Abbreviations

IIN Issuer Identification Number

AID Application identifier

RID Registered application provider identifier

BCD Binary Coded Decimal

OID Object identifier

5 Identifiers of the healthcare application providers

5.1 General

The identifier of the healthcare application provider may be determined from one of the following numbering systems:

a) IIN numbering system as defined in ISO/IEC 7812-1, if the card issuer is the healthcare application provider;

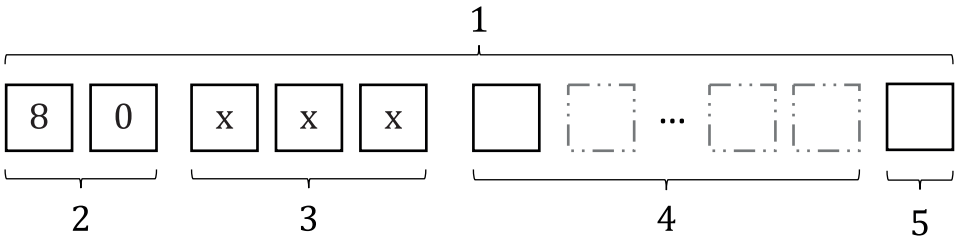
b) RID numbering system as defined ISO/IEC 7816-4 as part of an application identifier AID, if the healthcare data card is an IC card;

c) identification information such as number, sign, character strings, etc. according to the standard defined by card issuers, healthcare application providers, etc. and understood in the service area across national borders.

5.2 Structure of IIN

IIN is the number that identifies the major industry and the card issuer. IIN shall conform to the definition in ISO/IEC 7812-1. The first two digits in IIN shall be “80” in the healthcare sector, followed by the three-digit country code in accordance with ISO 3166-1. The following variable length digits up to 13 identify the card issuer. The coded number ends with the check digit. Figure 1 shows the composition of the IIN on healthcare data cards.

The formatting and coding of the digits following "80[xxx]" shall be at the discretion of the regional healthcare authorities, where "xxx" is the three-digit numeric country code, as specified in ISO 3166-1.



Key

1 IIN
2 fix 2 digits code for healthcare institution – 2 digits
3 country code – 3 digits
4 issuer identifier – variable length (max. 13 digits)
5 check digit

Figure 1 — Structures of IIN

5.3 Structure of RID

RID as part of an AID shall be used to uniquely identify the application provider of a specific application in an IC card (see ISO/IEC 7816-4). The structure of RID shall follow Annex A.

The registration procedure shall follow ISO/IEC 7816-5.

Annex A
(normative)

Structure of RID

RID consists of the following 5 bytes fields.

The first four bits, bits 8 to 5 of the first byte, indicate the registration category. “0” to “9” are reserved for backward compatibility with ISO/IEC 7812-1. “A”, “D” and “E” indicate the international registration, the national registration and identification of a standard, respectively.

(1) international registration (registration category: ‘A’)

— The international RID shall uniquely identify an application provider (see ISO/IEC 7816-5).

— Bits b8 to b5 of the first byte shall be set to 1010, i.e. the first quartet shall be set to 'A'.

— Each one of the subsequent nine quartets shall be set from '0' to '9'.

(2) national registration (registration category: ‘D’)

— The national RID shall uniquely identify an application provider (see ISO/IEC 7816-5).

— Bits b8 to b5 of the first byte shall be set to 1101, i.e. the first quartet shall be set to 'D'.

— The subsequent three quartets (from '0' to '9') shall form a country code (see ISO 3166-1).

— The recommended value of each one of the last six quartets is from '0' to '9'.

(3) standard identification (registration category: ‘E’)

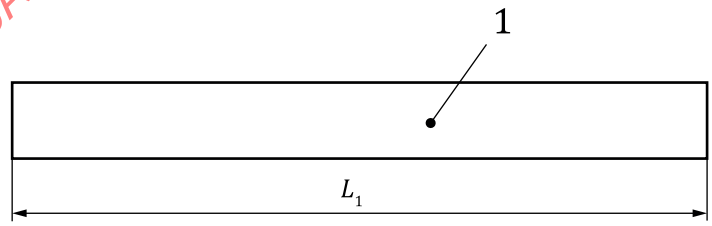
— If the registration category is ‘E’, the successive fields are as follows:

— The first byte shall be set to 1110 1000, i.e. to 'E8'.

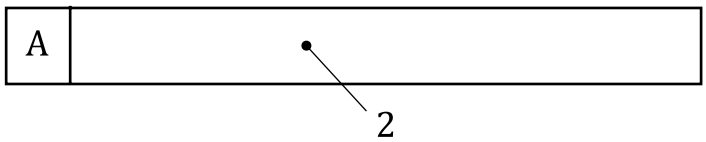
— An object identifier shall follow for identifying a standard specifying an application.

NOTE The category ‘E’ is used for applications defined by a standards committee. See ISO/IEC 7816-4.

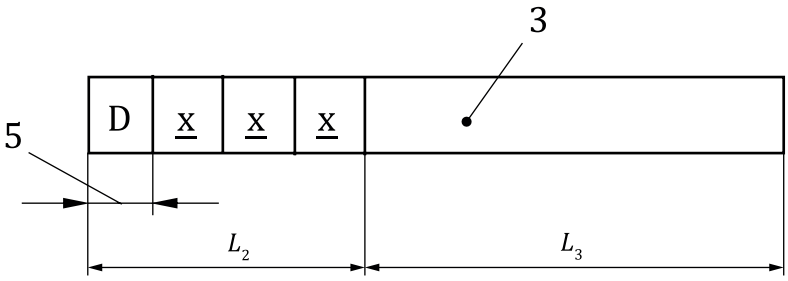
Structures of RID are shown in Figure A.1.



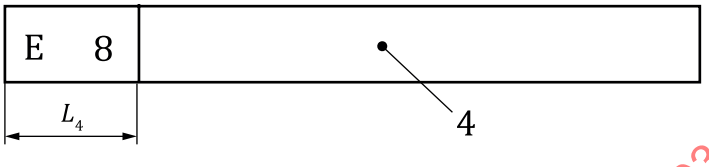
a) RID



b) International registration



c) National registration



d) RID related to the standard identified by its OID

L_1	5 bytes
L_2	2 bytes
L_3	3 bytes
L_4	1 byte

Key

1 registered application provider identifier (RID)
2 registered application provider number: (9 BCD digits)
3 specified by the national authority
4 object identifier
5 registration category

Figure A.1 — Structure of RID