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Information technology — Common Biometric Exchange Formats Framework —

Part 3: Patron format specifications

Technologies de l'information — Cadre de formats d'échange biométriques communs —

Partie 3: Spécifications de format d'usager

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
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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.

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

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member 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 shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 19785-3 was prepared by Technical Committee ISO/IEC/TC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

ISO/IEC 19785 consists of the following parts, under the general title *Information technology — Common Biometric Exchange Formats Framework*:

— *Part 1: Data element specification*

— *Part 2: Procedures for the operation of the Biometric Registration Authority*

— *Part 3: Patron format specifications*

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Introduction

Biometric-based authentication systems and applications are expected to support multiple biometric devices and multiple biometric data formats. The Common Biometric Exchange Formats Framework (CBEFF) promotes interoperability of biometric-based application programs and systems developed by different vendors by facilitating biometric data interchange.

ISO/IEC 19785-1 defines the following items that enable standardized biometric data interchange:

a) a 3-part standardized structure for biometric information records (BIRs) consisting of:

   1) standardized biometric headers (SBHs),
   2) biometric data blocks (BDBs, which may be standardized or proprietary), and
   3) optional security blocks (SBs);

b) variations of the 3-part structure to support BIRs containing:

   1) only one SBH, one BDB and possibly one SB (simple BIRs);
   2) more than one BDB along with the SBHs necessary to encode the BIR's structure and some number of SBs (complex BIRs);

c) more than 20 data elements and their associated abstract values that can be used in an SBH to describe attributes of a BDB within a BIR, as well as attributes of the BIR itself;

d) the concept of a CBEFF patron format (but ISO/IEC 19785-1 does not itself define any patron formats), which is a detailed specification of the structure and content of a particular, standardized BIR;

e) the concept of a CBEFF patron, which is a recognized standards organization that has registered with the Biometric Registration Authority and declared its intention to define CBEFF patron format specifications;

f) the concept of the Biometric Registration Authority (RA), which is the mechanism by which unique identifiers are assigned to organizations (standards organizations, vendors and others) that create BDB formats and CBEFF patron formats (ISO/IEC 19785-2 defines the responsibilities and operations of the Biometric RA);

g) CBEFF data elements (see c) above) that support, within the SBH, the unique identifiers assigned by the Biometric RA for biometric organizations, BDB formats, biometric products, patron formats and SB formats.

This part of ISO/IEC 19785 specifies a number of CBEFF patron formats that are considered to be of general utility in a variety of domains of use. Additional SC 37 patron format specifications may be published as new clauses in future amendments to this part of ISO/IEC 19785, or in other SC 37 International Standards.

The CBEFF patron format identifier unambiguously identifies the CBEFF patron format within the scope of the CBEFF patron identifier. The CBEFF patron format identifier is unambiguous within the scope of an ASN.1 Object Identifier (see ISO/IEC 9834-1) that identifies the Biometric Registration Authority (see ISO/IEC 19785-2). That ASN.1 Object Identifier (OID) is itself globally unambiguous within the scope of all ASN.1 Object Identifiers, which forms a widely-used global name-space.

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NOTE ASN.1 Object Identifiers are used by ITU-T, ITU-R, the UPU, many ISO and IEC Standards, to identify some IETF MIME types, and for many other purposes. (These acronyms have not been spelled out, as the precise identification of these organizations is not relevant to this International Standard.)

The combination of the Biometric Registration Authority OID, the CBEFF patron identifier, and the CBEFF patron format identifier forms a larger ASN.1 OID that provides an unambiguous identification of the CBEFF patron format. This part of ISO/IEC 19785 specifies, for each CBEFF patron format that it defines, the ASN.1 OID that unambiguously identifies that CBEFF patron format.

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Information technology — Common Biometric Exchange Formats Framework —

Part 3:
Patron format specifications

1 Scope

This part of ISO/IEC 19785 specifies and publishes registered CBEFF patron formats (see ISO/IEC 19785-1) defined by the CBEFF patron ISO/IEC JTC 1/SC 37, and specifies their registered CBEFF patron format identifiers (see ISO/IEC 19785-2) and resulting full ASN.1 Object Identifiers.

2 Conformance

Clause 6 onwards of this part of ISO/IEC 19785 specify at the bit-level the set of bit-patterns (and their semantics) that can form a valid instance of the CBEFF patron format that is defined in that clause, together with the ASN.1 Object Identifier for that set of bit-patterns.

A bit-pattern identified by one of the ASN.1 Object Identifiers allocated in this part of ISO/IEC 19785 conforms to this specification if, and only if, it is one of the bit-patterns in the set identified by that ASN.1 Object Identifier.

If an implementation claims that it supports (and conforms to) a CBEFF patron format defined in this part of ISO/IEC 19785 then it shall either be:

a) capable of generating at least one of the set of bit patterns specified for that CBEFF patron format, and shall never generate bit patterns that are not part of the set; or

b) capable of decoding (determining the semantics of), or in any other way processing all the bit-patterns in the set of bit patterns specified for that CBEFF patron format.

NOTE If a decoding implementation is presented with a bit pattern that purports to be part of the set, but it is not, there is no requirement placed on the action taken by the implementation, but it is normally expected that the implementation will guard against denial of service or other security threats in such circumstances.

3 Normative references

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

ISO/IEC 7816-4:2005, *Identification cards -– Integrated circuit cards — Part 4: Organization, security and commands for interchange*

ISO/IEC 7816-6:2004, *Identification cards -– Integrated circuit cards — Part 6: Interindustry data elements for interchange*

ISO/IEC 7816-11:2004, *Identification cards — Integrated circuit cards — Part 11: Personal verification through biometric methods*

ISO 8601:2004, *Data elements and interchange formats — Information interchange — Representation of dates and times*

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ISO/IEC 8824-1:2002, *Information technology — Abstract Syntax Notation One (ASN.1): Specification of basic notation*

ISO/IEC 8825-1:2002, *Information technology — ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*

ISO/IEC 8825-4:2002, *Information technology — ASN.1 Encoding Rules: XML Encoding Rules (XER)*

ISO/IEC 10646:2003, *Information technology — Universal Multiple-Octet Coded Character Set (UCS)*

ISO/IEC 19785-1, *Information technology — Common Biometric Exchange Formats Framework — Part 1: Date element specification*

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