
**Information technology — Common
Biometric Exchange Formats
Framework —**

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

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

*Partie 2: Procédures pour le fonctionnement de l'autorité
d'enregistrement biométrique*

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Foreword

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

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.

ISO/IEC 19785-2 was prepared by Joint Technical Committee ISO/IEC 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* [ISO/IEC 19785-2:2006](https://standards.iteh.ai/catalog/standards/sist/364cc8e9-7124-46f7-847d-4c0978812c15/iso-iec-19785-2-2006)
- *Part 2: Procedures for the operation of the Biometric Registration Authority*

The following part is under preparation:

- *Part 3: Patron Format Specifications*

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. This part of ISO/IEC 19785 supports such exchanges by providing unambiguous identification of biometric organizations, formats and products.

This part of ISO/IEC 19785 specifies procedures for a Registration Authority that is responsible for the assignment of ASN.1 object identifier components to identify biometric organizations, CBEFF patrons, biometric information record formats, biometric data block formats, security block formats, and biometric products, to provide globally unambiguous identification in the context of the CBEFF ASN.1 object identifier.

The registration process is universal, assigns unique and unambiguous identifiers, and avoids changes in identifiers over time.

The publication of the registers promotes compatibility in interchange of biometric data and improves interoperability of biometric systems. Registration provides an identifier, but registration should not be regarded as a standardization procedure. Nevertheless, as a matter apart from registration, the registered object may, but need not, be the subject of an international, national, or other standard.

The same registry can be used to register the identification of products which produce or process biometric data – whether the biometric organization owning the product is the same as or different from the biometric organization which defined the format of that data.

[ISO/IEC 19785-2:2006](https://standards.iteh.ai/catalog/standards/sist/364cc8e9-7124-46f7-847d-4c0978812c15/iso-iec-19785-2-2006)

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Information technology — Common Biometric Exchange Formats Framework —

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

1 Scope

This part of ISO/IEC 19785 specifies the procedures to be followed by the Biometric Registration Authority in preparing, maintaining, and publishing registers of identifiers for biometric organizations, CBEFF patron formats, BDB formats, security block formats, and biometric products.

2 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 8824-1, *Information technology — Abstract Syntax Notation One (ASN.1): Specification of basic notation*

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ISO/IEC 9834-1, *Information technology — Open Systems Interconnection — Procedures for the operation of OSI Registration Authorities: General procedures and top arcs of the ASN.1 Object Identifier tree*

ISO/IEC 19784-1, *Information technology — Biometric application programming interface — Part 1: BioAPI specification*

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

ISO/IEC 19794 (all parts), *Information technology — Biometric data interchange formats*

3 Terms and definitions

3.1 Terms defined in ISO/IEC 19785-1

For the purposes of this document, the following terms defined in ISO/IEC 19785-1 apply:

BDB format; BDB format identifier; biometric; biometrics; biometric data block (BDB); biometric information record (BIR); biometric product; biometric product identifier; biometric product owner; biometric sample; CBEFF biometric organization identifier; CBEFF patron; CBEFF patron format; CBEFF patron format identifier; CBEFF patron identifier; security block; security block format; security block format identifier.

3.2 Other terms and definitions

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

3.2.1

applicant

organization requesting registration as a CBEFF biometric organization, or registered CBEFF biometric organization requesting registration of a CBEFF patron format, BDB format, SB format or biometric product

3.2.2

register

record of assigned identifiers for CBEFF biometric organizations, CBEFF patron formats, BDB formats, SB formats, or biometric products

3.2.3

registrar

person or organization appointed by a Registration Authority, responsible for preparing and maintaining the register(s)

3.2.4

registration authority

organization nominated and appointed by the ISO/IEC Council to prepare and maintain registers

3.2.5

relevant ISO/IEC subcommittee

ISO/IEC subcommittee responsible for the maintenance of this part of ISO/IEC 19785

NOTE The relevant subcommittee is currently ISO/IEC JTC 1/SC 37

4 Symbols and abbreviated terms

ASN.1	Abstract Syntax Notation One (see ISO/IEC 8824-1)
BDB	biometric data block
BIR	biometric information record
CBEFF	common biometric exchange formats framework (see ISO/IEC 19785-1)
RA	registration authority
SB	security block

5 General

5.1 This part of ISO/IEC 19785 defines procedures for registration by which ASN.1 object identifier components are assigned to

- organizations concerned with the specification of biometric formats or with biometric products that either directly, or through the data that they produce, claim conformance to or can be used in conjunction with ISO/IEC 19785, ISO/IEC 19784, or one of the parts of ISO/IEC 19794;
- BIR formats specified by a CBEFF patron;
- BDB formats specified by a registered biometric organization;
- SB formats specified by a registered biometric organization; and
- biometric products supported by a registered biometric organization.

NOTE International Standards do not require the registration of BIR formats, BDB formats, SB formats, or biometric products, but registration is possible if a CBEFF patron or biometric organization considers that registration would be beneficial.

5.2 ASN.1 object identifiers are a form of worldwide unambiguous identification based on a hierarchical tree structure, and independent hierarchical registration authorities (see ISO/IEC 9834-1 and ISO/IEC 8824-1). The ASN.1 object identifier tree has a root arc, arcs beneath that root arc, arcs beneath each of those arcs, and so on, to any depth. Arcs are identified by positive integer values (zero upwards) that provide unambiguous identification of an arc within the superior arc. Arcs can also be given names (all in lower case, letters and hyphens only), but these are subsidiary to the numerical values and are not required. An object is identified by the sequence of arc values (numerical, or for early arcs, arc names) from the root to the object.

5.3 It is possible in representations of an object identifier to imply (by the context of that representation) identification of part of the path from the root to a node in the object identifier tree. In the extreme case, only a single object identifier component from that implied node need be represented.

This is the approach taken by ISO/IEC 19785-1 and by ISO/IEC 19784-1. These use a sixteen-bit field to provide the identification of an object identifier arc beneath an arc that is implied by the context. In other contexts, the full object identifier value should be given.

5.4 Components of ASN.1 object identifiers are positive integers (including zero) of unlimited magnitude. However, there are standards, for example ISO/IEC 19784-1, using the components allocated by this RA that use a simple 16-bit positive integer encoding for such components. The RA is therefore required to allocate values for arcs that can be represented as a 16-bit positive integer, and to alert the relevant ISO/IEC subcommittee before making allocations with any of the top three bits set to one.

NOTE It is expected that allocations will normally start at zero and proceed incrementally upwards except under exceptional requirements.

5.5 Successful registration as a biometric organization provides that biometric organization with a CBEFF biometric organization identifier. This is a sixteen-bit binary value (that can be interpreted as a positive integer) for an ASN.1 object identifier arc under

`{iso registration-authority cbeff(19785) organizations(0)}`

The allocated object identifier value is worldwide unambiguous, but the CBEFF biometric organization identifier can also be used alone in contexts where the preceding arcs are implied. Arcs identified by CBEFF biometric organization identifiers do not have arc names.

The syntax of the notation used in this subclause and subsequent subclauses for the value of ASN.1 Object Identifiers is specified in ISO/IEC 8824-1 and the semantics is specified in ISO/IEC 9834-1 and the standards it references.

5.6 A biometric organization that is recognized by the RA as the producer of open standards (standards that are subject to vetting procedures that ensure that they are technically correct and accurate and have wide-spread approval) will be recorded as having open standardization privileges, and is then called a CBEFF patron, and its CBEFF biometric organization identifier is called a CBEFF patron identifier. Any registered biometric organization can register BDB formats (see 5.8), SB formats (see 5.9), and biometric products (see 5.10), but only a CBEFF patron can register a BIR format - a CBEFF patron format (see 5.7).

5.7 Successful registration of a BIR format by a CBEFF patron records that the BIR format is identified by an arc with a sixteen-bit BIR format identifier (provided by the CBEFF patron) and also called a CBEFF patron format identifier, under the arc

```
{iso registration-authority cbeff(19785) organizations(0) <organization id> birs(1)}
```

and enables publication of a reference to the specification of that BIR format (CBEFF patron format). The <organization id> is the sixteen-bit CBEFF patron identifier of the definer of the CBEFF patron format. The allocated object identifier value is worldwide unambiguous, but the BIR format identifier can also be used alone in contexts where the preceding arcs are implied. Arcs identified by CBEFF patron format identifiers do not have arc names.

5.8 Successful registration of a BDB format by a biometric organization records that the BDB format is identified by an arc with a sixteen-bit BDB format identifier (provided by the CBEFF biometric organization) under the arc

```
{iso registration-authority cbeff(19785) organizations(0) <organization id> bdb(0)}
```

and enables publication of a reference to the specification of that BDB format. The <organization id> is the sixteen-bit CBEFF biometric organization identifier of the definer of the BDB format. The allocated object identifier value is worldwide unambiguous, but the BDB format value can also be used alone in contexts where the preceding arcs are implied. Arcs identified by CBEFF BDB format identifiers do not have arc names.

5.9 Successful registration of an SB format by a biometric organization records that that SB format is identified by an arc with a sixteen-bit SB format identifier (provided by the CBEFF biometric organization) under the arc

```
{iso registration-authority cbeff(19785) organizations(0) <organization id> sb-formats(3)}
```

and enables publication of a reference to the specification of that SB format. The <organization id> is the sixteen-bit CBEFF biometric organization identifier of the definer of the SB format. The allocated object identifier value is worldwide unambiguous, but the SB format value can also be used alone in contexts where the preceding arcs are implied. Arcs identified by CBEFF SB format identifiers do not have arc names.

5.10 Successful registration of a biometric product by a CBEFF biometric organization records that the biometric product is identified by an arc with a CBEFF biometric product identifier allocated by the Registration Authority. This is a sixteen-bit binary value (that can be interpreted as a positive integer) for an ASN.1 object identifier arc under

```
{iso registration-authority cbeff(19785) organizations(0) <organization id> products(2)}
```

The <organization id> is the sixteen-bit CBEFF biometric organization identifier of the owner of the biometric product. The allocated object identifier value is worldwide unambiguous, but the biometric product identifier can also be used alone in contexts where the preceding arcs are implied. Arcs identified by biometric product identifiers do not have arc names.

5.11 All the above 16 bit identifiers are notified to applicants, and recorded in the registers as four hexadecimal digits. These four hexadecimal digits can also be considered as a positive integer value, and the use of the hexadecimal format does not carry any implications of the representation of this value in machine-readable or other material.

5.12 The Registration Authority shall not assign the value zero (X'00 00') to any biometric organization.

5.13 The Registration Authority may at any time submit to the next meeting of the relevant ISO/IEC subcommittee a request for amendment of this part of ISO/IEC 19785.

5.14 The Registration Authority shall not be liable for any failure to operate under these procedures, or for any actions in relation to its duties defined in this part of ISO/IEC 19785, except that it may be discharged of its duties by the relevant ISO/IEC subcommittee, without penalty, should it fail to satisfactorily operate these procedures.

NOTE Should the relevant ISO/IEC subcommittee determine that the Registration Authority be discharged of its duties, for this or for any other reason, it is expected that information held by the RA in its registers will be made available to the relevant ISO/IEC subcommittee for use by any other organization that may be subsequently appointed as the Biometric Registration Authority.

6 Appointment of the registration authority

It is within the mandate of ISO/IEC to organize registration as specified in this part of ISO/IEC 19785. In order to do this, ISO/IEC appoints, according to their internal requirements and rules, an organization to act as the RA for this part of ISO/IEC 19785. Annex A specifies the Biometric Registration Authority, and the means of contacting it, that has been appointed to operate the procedures of this part of ISO/IEC 19785.

7 Fees

7.1 The organization performing the role of this RA shall do so on a cost recovery basis. The fee structure shall be designed to recover the expenses of operating the RA, to cover Web publication of registrations, to support inquiry requests, and to discourage frivolous and multiple requests.

7.2 Fees can apply to

- a) initial registration;
- b) inquiry request;
- c) request for update (see 11.4 and 11.6).

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7.3 Fees shall be independent of the country from which the application is made.

7.4 In no case shall fees or financial contributions be required from the ISO Secretariat, IEC Central Office, their national bodies, or their technical committees or subcommittees.

7.5 Once the fee associated with making an initial register entry has been made, there shall be no further charges for the maintenance of that entry or its publication on a web-site.

8 Registration procedures for CBEFF biometric organizations and CBEFF patrons

8.1 General

This subclause specifies the procedures to be followed in the registration of CBEFF biometric organizations and CBEFF patrons. The procedures are designed to assure openness and due process in the registration process, with review if necessary by the relevant ISO/IEC subcommittee.

8.2 Application for registration as a CBEFF biometric organization or as a CBEFF patron

8.2.1 An organization submits an application for registration as a CBEFF biometric organization or as a CBEFF patron directly to the RA. The content of the application is specified in subclause 10.2.

8.2.2 Any bona-fide organization concerned with the specification of biometric formats or the production or use of biometric products can apply for registration as a CBEFF biometric organization.

NOTE It is intended that the class of those eligible to apply for registration as a "biometric organization" should be as wide and loose as is manageable possible.