

FINAL  
DRAFT

INTERNATIONAL  
STANDARD

ISO/IEC  
FDIS  
19785-1

ISO/IEC JTC 1/SC 37

Secretariat: ANSI

Voting begins on:  
2020-06-17

Voting terminates on:  
2020-08-12

---

---

## Information technology — Common Biometric Exchange Formats Framework —

### Part 1: Data element specification

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

*Partie 1: Spécification des éléments de données*

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.



---

---

Reference number  
ISO/IEC FDIS 19785-1:2020(E)

© ISO/IEC 2020

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)  
Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/9aa95a10-9d7c-4491-9573-70f9a10ab995/iso-iec-fdis-19785-1>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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

Published in Switzerland

# Contents

	Page
Foreword .....	vi
Introduction .....	vii
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>2</b>
<b>4 Abbreviated terms</b> .....	<b>8</b>
<b>5 Conformance</b> .....	<b>8</b>
<b>6 Biometric identifiers</b> .....	<b>9</b>
<b>7 Biometric information record (BIR) structures</b> .....	<b>9</b>
7.1 General .....	9
7.2 Defining a CBEFF patron format using the simple CBEFF BIR structure .....	11
7.2.1 Standard biometric header (SBH) .....	12
7.2.2 The biometric data block (BDB) .....	12
7.2.3 Security block (SB) .....	13
7.3 Defining a CBEFF patron format using the complex CBEFF BIR structure .....	13
7.4 Defining a CBEFF patron format using the multiple CBEFF BIR structure .....	15
7.5 Applying the self-identifying concept to a CBEFF patron format structure .....	16
<b>8 Performing BIR transformations</b> .....	<b>16</b>
8.1 General .....	16
8.2 Transformations of enumerated abstract values .....	16
8.3 Transformations of non-enumerated data element values .....	17
<b>9 CBEFF data elements</b> .....	<b>17</b>
9.1 General .....	17
9.2 CBEFF_BDB_format_owner .....	17
9.2.1 Attributes .....	17
9.2.2 Transformation requirements .....	17
9.3 CBEFF_BDB_format_type .....	18
9.3.1 General .....	18
9.3.2 Attributes .....	18
9.3.3 Transformation requirements .....	18
9.4 CBEFF_BDB_encryption_options .....	18
9.4.1 Attributes .....	18
9.4.2 Requirements on patron format specifications .....	18
9.4.3 Transformation requirements .....	19
9.5 CBEFF_BIR_integrity_options .....	19
9.5.1 Attributes .....	19
9.5.2 Requirements on patron format specifications .....	19
9.5.3 Transformation requirements .....	19
9.6 CBEFF_BIR_self_id_owner .....	19
9.6.1 Attributes .....	19
9.6.2 Transformation requirements .....	20
9.7 CBEFF_BIR_self_id_type .....	20
9.7.1 Attributes .....	20
9.7.2 Transformation requirements .....	20
9.8 CBEFF_subheader_count .....	20
9.9 CBEFF_BDB_biometric_type .....	20
9.9.1 Attributes .....	20
9.9.2 Transformation requirements .....	21
9.10 CBEFF_BDB_biometric_subtype .....	21
9.10.1 Attributes .....	21
9.10.2 Transformation requirements .....	24

9.11	CBEFF_BDB_capture_device_type_owner .....	24
9.11.1	Attributes .....	24
9.11.2	Transformation requirements .....	25
9.12	CBEFF_BDB_capture_device_type .....	25
9.12.1	General .....	25
9.12.2	Attributes .....	25
9.12.3	Transformation requirements .....	25
9.13	CBEFF_BDB_challenge_response .....	25
9.13.1	Attributes .....	25
9.14	CBEFF_BDB_comparison_algorithm_owner .....	26
9.14.1	Attributes .....	26
9.14.2	Transformation requirements .....	26
9.15	CBEFF_BDB_comparison_algorithm_type .....	26
9.15.1	Attributes .....	26
9.15.2	Transformation requirements .....	26
9.16	CBEFF_BDB_compression_algorithm_owner .....	27
9.16.1	Attributes .....	27
9.16.2	Transformation requirements .....	27
9.17	CBEFF_BDB_compression_algorithm_type .....	27
9.17.1	General .....	27
9.17.2	Attributes .....	27
9.17.3	Transformation requirements .....	27
9.18	CBEFF_BDB_creation_date .....	27
9.18.1	Attributes .....	27
9.18.2	Transformation requirements .....	28
9.19	CBEFF_BDB_feature_extraction_algorithm_owner .....	28
9.19.1	Attributes .....	28
9.19.2	Transformation requirements .....	28
9.20	CBEFF_BDB_feature_extraction_algorithm_type .....	29
9.20.1	General .....	29
9.20.2	Attributes .....	29
9.20.3	Transformation requirements .....	29
9.21	CBEFF_BDB_index .....	29
9.21.1	Attributes .....	29
9.21.2	Transformation requirements .....	29
9.22	CBEFF_BDB_PAD_mechanism_vendor .....	30
9.22.1	Attributes .....	30
9.22.2	Transformation requirements .....	30
9.23	CBEFF_BDB_PAD_mechanism .....	30
9.23.1	Attributes .....	30
9.23.2	Transformation requirements .....	30
9.24	CBEFF_BDB_processed_level .....	30
9.24.1	Attributes .....	30
9.24.2	Transformation requirements .....	31
9.25	CBEFF_BDB_product_owner .....	31
9.25.1	Attributes .....	31
9.25.2	Transformation requirements .....	31
9.26	CBEFF_BDB_product_type .....	31
9.26.1	Attributes .....	31
9.26.2	Transformation requirements .....	32
9.27	CBEFF_BDB_purpose .....	32
9.27.1	Attributes .....	32
9.27.2	Transformation requirements .....	32
9.28	CBEFF_BDB_quality .....	32
9.28.1	Attributes .....	32
9.28.2	Transformation requirements .....	33
9.29	CBEFF_BDB_quality_algorithm_owner .....	33
9.29.1	Attributes .....	33

9.29.2	Transformation requirements .....	33
9.30	CBEFF_BDB_quality_algorithm_type .....	33
9.30.1	General .....	33
9.30.2	Attributes .....	33
9.30.3	Transformation requirements .....	34
9.31	CBEFF_BDB_validity_period .....	34
9.31.1	Attributes .....	34
9.31.2	Transformation requirements .....	34
9.32	CBEFF_BIR_creation_date .....	34
9.32.1	Attributes .....	34
9.32.2	Transformation requirements .....	35
9.33	CBEFF_BIR_creator .....	35
9.33.1	Attributes .....	35
9.33.2	Transformation requirements .....	35
9.34	CBEFF_BIR_index .....	35
9.34.1	Attributes .....	35
9.34.2	Transformation requirements .....	35
9.35	CBEFF_BIR_patron_format_owner .....	36
9.35.1	Attributes .....	36
9.35.2	Transformation requirements .....	36
9.36	CBEFF_BIR_patron_format_type .....	36
9.36.1	Attributes .....	36
9.36.2	Transformation requirements .....	36
9.37	CBEFF_BIR_payload .....	36
9.37.1	Attributes .....	36
9.37.2	Transformation requirements .....	37
9.38	CBEFF_BIR_pointer .....	37
9.38.1	Attributes .....	37
9.38.2	Transformation requirements .....	37
9.39	CBEFF_BIR_validity_period .....	37
9.39.1	Attributes .....	37
9.39.2	Transformation requirements .....	37
9.40	CBEFF_patron_header_version .....	38
9.40.1	Attributes .....	38
9.40.2	Transformation requirements .....	38
9.41	CBEFF_SB_format_owner .....	38
9.41.1	Attributes .....	38
9.41.2	Transformation requirements .....	38
9.42	CBEFF_SB_format_type .....	39
9.42.1	Attributes .....	39
9.42.2	Transformation requirements .....	39
9.43	CBEFF_version .....	39
9.43.1	Attributes .....	39
9.43.2	Transformation requirements .....	40
<b>Annex A (normative) Format and content of a patron format conformance statement .....</b>		<b>41</b>
<b>Annex B (informative) Conventions for CBEFF names .....</b>		<b>43</b>
<b>Bibliography .....</b>		<b>44</b>

## 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.

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 document 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](http://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 and IEC 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](http://www.iso.org/patents)) or the IEC list of patent declarations received (see <http://patents.iec.ch>).

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

This third edition cancels and replaces the second edition (ISO/IEC 19785-1:2015), which has been technically revised.

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

- The self-identifying concept is now permitted to be applied to any of the CBEFF BIR patron formats defined in this document.
- Clarification of presentation attack detection (PAD) terminology has been made.
- Revisions have been made to move a large portion of [Clause 6](#) (Biometric Identifiers) to ISO/IEC 19785-2 since the biometric identifiers are used by the Biometric Registration Authority (BRA).
- Previous versions of this document were published by the US National Institute of Standards and Technology (an agency of the government of the United States of America) and the Biometric Consortium Working Group. The last official non-ISO/IEC release of the standard was designated Version 1.1, the first version of this document (ISO/IEC 19785-1:2006) was designated Version 2.0, and the ISO/IEC 19785-1:2015 version was designated Version 3.0. This version of the document is designated Version 4.0 to distinguish the versions of CBEFF products in the marketplace. Version 4.0 is backward compatible with Version 3.0, but the data element names related to PAD have changed.

A list of all parts in the ISO/IEC 19785 series can be found on the ISO website.

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](http://www.iso.org/members.html).

## Introduction

The *Common Biometric Exchange Formats Framework* (CBEFF) promotes interoperability of biometric-based applications and systems by specifying standard structures for *biometric information records* (BIRs) and a set of abstract data elements and values that can be used to create the header part of a CBEFF-compliant BIR.

A BIR is a data structure containing biometric data and descriptive data elements in accordance with the requirements specified in this document. BIRs are typically stored in a database or transmitted between systems or parts of systems. A BIR always has at least two parts: a standard biometric header (SBH) and at least one biometric data block (BDB) that contains the biometric data. It may also have a third part called the security block (SB). CBEFF places no requirements on the content and encoding of a BDB except that its length shall be an integral number of octets. As an example of a BDB format, see the ISO/IEC 19794 series and ISO/IEC 39794 series of documents which specify standardized BDB formats for several biometric types. BIRs are typically stored in a database or transmitted between systems or parts of systems.

The primary purpose of CBEFF is to define *abstract data elements* (data elements with a set of defined abstract values with their semantics) that are expected to be of general utility as parts of the SBH in BIRs. This document defines these data elements.

CBEFF requires that a Biometric Registration Authority (BRA) exists to assign unique identifiers to biometric organizations, BDB formats, SB formats and other CBEFF entities; to publish the identifiers where appropriate; and to ensure that no conflicts occur between identifiers.

A CBEFF biometric organization is any organization, public or private, that requests and receives a biometric organization identifier from the BRA. A CBEFF patron is an organization (registered as a biometric organization) that specifies, or intends to specify, one or more CBEFF patron formats in an open and public manner. Only public standards organizations such as a standards body, working group, or industry consortium, can register as CBEFF patrons (other CBEFF biometric organizations are not CBEFF patrons). A CBEFF patron obtains a biometric organization identifier from the Biometric Registration Authority but has privileges beyond those of ordinary CBEFF biometric organizations: it can define, register and publish one or more CBEFF patron formats.

A *CBEFF patron format* is a full specification of encodings for a particular domain of use and developed by a CBEFF patron. A CBEFF patron format implements some or all of the abstract values of the CBEFF data elements defined in this document (possibly with additional abstract values determined by the CBEFF patron) and supports one or more BDBs containing biometric data. The biometric organization identifier of a CBEFF patron can (but need not) be encoded in BIRs conforming to the patron formats defined by that CBEFF patron. As new technologies evolve, the need for new encoding rules (or support of more or different CBEFF data elements) may require new CBEFF patron formats for a given domain of use.

CBEFF also defines the concept of a *CBEFF BDB format owner*. A CBEFF BDB format owner is an organization (registered as a CBEFF biometric organization) that specifies one or more BDB format specifications. A BDB format owner obtains a CBEFF biometric organization identifier from the BRA. A BDB format owner can be a public standards organization (that would also qualify as a CBEFF patron) or any organization that has a need to define its own vendor-specific BDB formats, whether they are to be published or not.

A CBEFF BDB format owner defines one or more BDB formats and assigns a unique BDB format identifier. The combination of the BDB format identifier and the format owner's biometric organization identifier unambiguously identifies the BDB format. A BDB format identifier and the corresponding format may, but need not, be registered with the BRA.

CBEFF also defines the concepts of CBEFF biometric product owner, as well as owners or vendors for the following specific product types: capture device, feature extraction algorithm, comparison algorithm, quality algorithm, compression algorithm and presentation attack detection (PAD) mechanism. A CBEFF biometric product owner is an organization (registered as a CBEFF biometric organization) that assigns a biometric product identifier to a biometric product. A biometric product owner can be a public

standards organization such as a standards body, working group, or industry consortium (such an organization would also qualify as a CBEFF patron), or any organization, such as a vendor or integrator, that has a need to assign biometric product identifiers to biometric products. A given organization can be the owner of one or more entities in one or more of these categories (also including BDB formats and SB formats as additional categories), with no restrictions on the number of entities owned by the organization or to which categories those entities may belong.

A CBEFF biometric product owner assigns biometric product identifiers to one or more biometric products. The identified products can be hardware or software products or a combination of hardware and software. Examples of biometric products are biometric service providers (BSPs) as defined by ISO/IEC 19784-1, biometric transforming applications, and specific product types mentioned in the previous paragraph. A biometric product identifier unambiguously identifies a biometric product within those that have been assigned an identifier by the biometric product owner. A biometric product identifier can, but need not, be registered with the BRA. Similarly, biometric product owners of specialized biometric products (such as capture devices, feature extraction algorithms, comparison algorithms, quality algorithms, compression algorithms, or PAD mechanisms) assign identifiers (such as capture device type identifiers, feature extraction algorithm identifiers, etc.) to one or more specialized biometric products. Such biometric product owners may be more specifically referred to by using the name of the specialized biometric product (for example capture device owners and feature extraction algorithm owners).

CBEFF also defines the concept of a CBEFF SB format owner. A CBEFF security block format owner is an organization registered as a CBEFF biometric organization that assigns a SB format identifier to a SB format. A CBEFF SB format owner can be a public standards organization such as a standards body, working group, or industry consortium (such an organization would also qualify as a CBEFF patron), or any organization, such as a vendor or integrator, that has a need to assign SB format identifiers to SB formats. A SB format owner can also, but need not, be a BDB format owner and vice versa.

A CBEFF SB format owner assigns SB format identifiers to one or more SB formats. A SB format identifier unambiguously identifies a SB format within those that have been assigned an identifier by the biometric SB format owner. A SB format identifier may, but need not, be registered with the BRA.

This document specifies a simple CBEFF BIR structure, a complex CBEFF BIR structure, and a multiple CBEFF BIR structure (which allows BIR formats with one or more sub-BIRs), and gives the requirements for the specification of a CBEFF patron format based on these abstract data structures.

This document also specifies a self-identifying concept that can be applied to all CBEFF BIR structures so that the patron format can be identified during processing of the SBH without prior knowledge of the patron format type.

This document also specifies transformations of BIRs from one CBEFF patron format into a different CBEFF patron format.

[Clause 5](#) specifies the conformance requirements for CBEFF patrons that define CBEFF patron formats. It also specifies the conformance requirements for biometric transforming applications and for implementations claiming conformance to a specific patron format.

[Clause 9](#) specifies the CBEFF-defined abstract data elements and the transformation requirements for each data element. CBEFF permits CBEFF patrons to specify additional abstract data elements.

[Annex A](#) is normative. It defines a patron format conformance statement for patrons to complete and publish as part of their patron format specifications as assurance that the format fully complies with CBEFF requirements.

[Annex B](#) is informative. It explains the naming conventions used for data elements and abstract values specified in this document and in ISO/IEC 19785-3.

ISO/IEC 19785-2 describes the universal identification scheme used by the BRA (which is identified on the webpage [https://www.iso.org/maintenance\\_agencies.html](https://www.iso.org/maintenance_agencies.html)). Procedural information for the BRA is included on the ISO website ([https://committee.iso.org/files/live/sites/jtc1sc37/files/ABOUT/Procedural\\_Information\\_BRA.pdf](https://committee.iso.org/files/live/sites/jtc1sc37/files/ABOUT/Procedural_Information_BRA.pdf)). ISO/IEC 19785-3 specifies several patron formats for which ISO/



IEC JTC 1/SC 37 is the CBEFF patron. ISO/IEC 19785-4 specifies several SB formats for which ISO/IEC JTC 1/SC 37 is the CBEFF patron.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**  
Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/9aa95a10-9d7c-4491-9573-70f9a10ab995/iso-iec-fdis-19785-1>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/9aa95a10-9d7c-4491-9573-70f9a10ab995/iso-iec-fdis-19785-1>

# Information technology — Common Biometric Exchange Formats Framework —

## Part 1: Data element specification

### 1 Scope

This document defines:

- structures and data elements for biometric information records (BIRs);
- the concept of a domain of use to establish the applicability of a standard or specification that conforms with CBEFF requirements;
- the concept of a CBEFF patron format, which is a published BIR format specification that complies with CBEFF requirements, specified by a CBEFF patron;
- the abstract values and associated semantics of a set of CBEFF data elements to be used in the definition of CBEFF patron formats;

This document describes methods to define CBEFF patron formats using CBEFF data elements to specify the structure of BIRs, including the standard biometric headers (SBHs).

This document also provides the means for identification of BDB formats in a BIR, but the standardization and interoperability of BDB formats is not in the scope of this document. It also provides a security block (SB) as a means for BIRs to carry information about the encryption of a BDB in the BIR and about integrity mechanisms applied to the BIR itself. The structure and content of SBs is not in the scope of this document. Further, the specification of encryption mechanisms for BDBs and of integrity mechanisms for BIRs is not in the scope of this document.

This document specifies transformations from one CBEFF patron format to a different CBEFF patron format.

The following are not in the scope of this document:

- the encoding of the abstract values of CBEFF data elements to be used in the specification of CBEFF patron formats; and
- protection of the privacy of individuals from inappropriate dissemination and use of biometric data.

### 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 2382-37, *Information technology — Vocabulary — Part 37: Biometrics*

ISO/IEC 10646, *Information technology — Universal Character Set (UCS)*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 2382-37 and the following apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1 biometric data block format identifier BDB format identifier

unique (within a biometric organization) identifier of a format for a biometric data block (BDB), where that format has been fully defined by a *Common Biometric Exchange Format Framework (CBEFF) biometric organization* (3.15) called the *BDB format owner* (3.3)

Note 1 to entry: The BDB format identifier value is NO VALUE AVAILABLE when the BDB does not conform to a defined format.

#### 3.2 biometric data block format BDB format

format of a biometric data block (BDB) defined by a *Common Biometric Exchange Format Framework (CBEFF) biometric organization* (3.15)

Note 1 to entry: The BDB format value is NO VALUE AVAILABLE when the BDB does not conform to a defined format.

#### 3.3 biometric data block format owner BDB format owner

*Common Biometric Exchange Format Framework (CBEFF) biometric organization* (3.15) that defines a *BDB format* (3.2) and assigns to it a *BDB format identifier* (3.1)

Note 1 to entry: The BDB format owner value is NO VALUE AVAILABLE when the BDB does not conform to a defined format.

#### 3.4 biometric data block BDB

block of data containing biometric information which may or may not conform to a defined format

Note 1 to entry: The BDB is normally opaque to the processing of a *standard biometric header (SBH)* (3.51) and is not required to be self-delimiting.

#### 3.5 biometric information record BIR

data structure containing one or more *biometric data blocks (BDBs)* (3.4) together with information identifying the BDB formats, and possibly further information, i.e. whether a BDB is encrypted or the BIR is signed

#### 3.6 biometric object

an entity or concept related to the field of biometrics that fits a category definition as established by an international standard and that may be registered by the BRA

Note 1 to entry: Examples of biometric object categories include, but are not limited to, *biometric data blocks (BDBs)* (3.4), *biometric products* (3.7), and *security blocks (SBs)* (3.43). Some international standards which define types of biometric objects include ISO/IEC 19784-1, ISO/IEC 19785-3, all parts of ISO/IEC 19794 and ISO/IEC 39794.

Note 2 to entry: Biometric objects can, but need not, be registered by the BRA. For example, BDBs that do not conform to a defined format are not registered by the BRA.

### 3.7

#### **biometric product**

software or hardware product or a combination of software and hardware, which is assigned a *biometric product identifier* (3.8) by a *Common Biometric Exchange Format Framework (CBEFF) biometric organization* (3.15) called the *biometric product owner* (3.9) of the biometric product

### 3.8

#### **biometric product identifier**

identifier assigned to a *biometric product* (3.7) that unambiguously identifies the biometric product within the biometric products that have been assigned an identifier by a *biometric product owner* (3.9)

### 3.9

#### **biometric product owner**

*Common Biometric Exchange Format Framework (CBEFF) biometric organization* (3.15) that assigns *biometric product identifiers* (3.8) to *biometric products* (3.7)

Note 1 to entry: The organization may or may not be the manufacturer of the products.

### 3.10

#### **Biometric Registration Authority BRA**

*registration authority* (3.42) that facilitates the globally unambiguous identification of *biometric objects* (3.6) and biometric organizations by maintaining and publishing a register of unique ASN.1 object identifiers

Note 1 to entry: The BRA is managed separately from ISO/IEC JTC 1.

Note 2 to entry: The BRA is responsible for managing the application process for assignment and registration of identifiers, including the assurance of identifier uniqueness.

### 3.11

#### **biometric transformation**

transformation of a *biometric information record (BIR)* (3.5) in an initial patron format into a BIR in a target patron format

Note 1 to entry: This can (but need not) include processing of the content of the *biometric data block (BDB)* (3.4). See 9.23 and 9.26.

### 3.12

#### **capture device type**

hardware product or a combination of software and hardware which is assigned a *capture device type identifier* (3.13) by a *Common Biometric Exchange Format Framework (CBEFF) biometric organization* (3.15)

### 3.13

#### **capture device type identifier**

identifier assigned to a capture device by a *capture device type owner* (3.14) that unambiguously (given the capture device type owner) identifies the capture device

### 3.14

#### **capture device type owner**

*Common Biometric Exchange Format Framework (CBEFF) biometric organization* (3.15) that assigns *capture device type identifiers* (3.13) to capture devices

Note 1 to entry: The organization may or may not be the manufacturer of the capture devices.