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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 41903.4-2025

**Information technology - Object oriented BioAPI - Part 4: C++
implementation**

信息技术 面向对象的生物特征识别应用编程接口 第4部分：C++实现
(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 4 of GB/T 41903 "Information technology object-oriented biometric recognition application programming interface".

GB/T 41903 has published the following parts.

--- Part 1: Architecture;

--- Part 2: Java implementation;

---Part 3: C 7.1.5.2 to 7.1.5.7 in ISO /IEC 30106-4:2019;

--- Chapter 9 corresponds to Chapter 8 of ISO /IEC 30106-4:2019, of which 9.1 corresponds to Chapter 8 of ISO /IEC 30106-4:2019 8.1, 9.2~9.5 correspond to 8.12~8.15, 9.5.2~9.5.25 in ISO /IEC 30106-4:2019 8.1.51 to 8.1.5.24 of ISO /IEC 30106-4:2019;

--- Added "8.5.1" and "9.5.1" numbering;

--- Deleted the "9.1.1" clause number.

The technical differences between this document and ISO /IEC 30106-4:2019 and their reasons are as follows.

--- Replaced ISO /IEC 30106-1 with the normative reference GB/T 41903.1 to adapt to my country's technical conditions (see Chapter 1, 6.1.1.1, 6.1.1.2, 6.5.1, 11.1.1, 11.2.1);

--- Replaced ISO /IEC 30106-2 with the normative reference GB/T 41903.2 to adapt to my country's technical conditions (see Section 5 chapter);

--- Replaced ISO /IEC 30106-3 with the normative reference GB/T 41903.3 to adapt to my country's technical conditions (see Section 5 chapter);

--- Added normative reference GB/T 13000-2025 to adapt to my country's coded character standards (see 6.4.2, 6.6.2, 6.8.2, 11.2.2.2, 11.2.2.3, 11.2.2.4);

--- Added normative references to GB 18030 to facilitate adaptation to my country's coded character standards (see 6.4.2, 6.6.2, 6.8.2, 11.2.2.2, 11.2.2.3, 11.2.2.4);

--- Added the "bfpEnumeration" parameter (see 10.2.4.1);

--- Added the "notifyCallback" parameter (see 10.2.4.2). The following editorial changes have been made to this document.

--- Corrected the name of the second enumeration constant in 6.1.1.15 to "RequestPayload";

--- Corrected "String" in 6.6.2 Property Summary to "string";

--- Corrected "svector" to "vector" in 6.4.2 Attribute Summary;

--- Corrected the second "intunitID" of the "BIRCreateTemplate" method in 7.4.2.2;

--- Corrected "ICandidate" to "Candidate" in 7.3.2.3, 7.3.2.4, 9.5.13, and 9.5.14;

--- Corrected the parameter "bfpNotifyCallback" in 9.5.2 to "bspNotifyCallback";

--- Corrected "BFPEventCallback" in 11.2.2.1 to "BSPEventCallback", "bfpUUID" to "bspUUID";

Introduction

The BioAPI described in C language is suitable for applications written in C, and also suitable for applications written in C.

However, function-based languages like C do not map easily to object-oriented programming languages.

Using the C version of the API within an application is inconvenient and requires complex programming constructs to be introduced into application development.

The object-oriented version of BioAPI is designed to improve the productivity of software practitioners, while retaining the object-oriented programming model.

For Java, the standard object-oriented BioAPI version allows BSPs loaded into Java-based application servers to execute. In these application servers, it is more convenient to use the object-oriented BioAPI than the C++. The BioAPI version is more convenient.

Another area where the standard object-oriented BioAPI version is used is in small computing devices based on object-oriented languages.

In devices (like the large application servers mentioned above), an object-oriented BioAPI framework and object-oriented BSP will be more suitable. Their C counterparts are more suitable.

Object-oriented application programming interface requires a unified architecture, and the implementation languages include Java, C --- Part 1: Architecture. Specifies the general architecture of the object-oriented BioAPI, with the aim of standardizing different BioAPIs implemented in the language of the same language has the same structure and the components have conceptual equivalence.

--- Part 2: Java Implementation. Specifies the object-oriented BioAPI Java framework and various interfaces, as well as data types and constants. The purpose is to guide the implementation of interfaces in Java language.

---Part 3: C

GB/T 13000-2025 Information technology - Universal Coded Character Set (UCS) (ISO /IEC 10646:2020, MOD)

Note: There is no technical difference between the referenced content of GB/T 13000-2025 and the referenced content of ISO /IEC 10646:2020.

GB 18030 Information Technology Chinese Coded Character Set

GB/T 41903.1 Information technology - Object-oriented biometric recognition application programming interface - Part 1: Architecture (GB/T 41903.1-2022,ISO /IEC 30106-1:2016,MOD)

GB/T 41903.2 Information technology - Object-oriented biometric recognition application programming interface - Part 2: Java implementation (GB/T 41903.2-2022,ISO /IEC 30106-2:2020,MOD)

GB/T 41903.3 Information technology - Object-oriented biometric recognition application programming interface - Part 3: C