
**Information technology — Object
oriented BioAPI —**

**Part 4:
C++ implementation**

Technologies de l'information — Objet orienté BioAPI —

Partie 4: Implémentation C++

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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.

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).

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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 Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

A list of all parts in the ISO/IEC 30106 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.

Introduction

In this document an application programming interface expressed in C++ language is specified. C++ is a basic, general-purpose, object-oriented programming language that is used in most computer-based platforms and operating systems.

One of the advantages of using C++ is that, as it is supported by most computer platforms, the development, in source code, may be fully (or at least to a great part) supported from one platform to another.

C++ is a programming language standardized by ISO/IEC 14882, and most development platforms allow its use in conjunction to other programming languages and frameworks.

This document is drafted to make a clear and usable interpretation of ISO/IEC 30106-1, when using C++ programming language.

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Information technology — Object oriented BioAPI —

Part 4: C++ implementation

1 Scope

This document specifies an interface of a BioAPI C++ framework and BioAPI C++ BSP which will mirror the corresponding components specified in ISO/IEC 30106-1. The semantic equivalence of this document will be maintained with ISO/IEC 30106-2 (Java implementation) and ISO/IEC 30106-3 (C# implementation). In spite of the differences in actual parameters passed between functions, the names and interface structure are the same.

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 30106-1, *Information technology — Object oriented BioAPI — Architecture*

ISO/IEC 30106-2, *Information technology — Object oriented BioAPI — Part 2: Java implementation*

ISO/IEC 30106-3, *Information technology — Object oriented BioAPI — Part 3: C# implementation*

ISO/IEC 14882, *Programming languages — C++*

3 Terms and definitions

No terms and definitions are listed in this document.

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/>

4 BioAPI C++ general requirements

All classes defined in the scope of this document shall have a constructor with all its properties as parameters, as well as a destructor that will free all allocated memory. In addition, the definition of each of the classes may contain further requirements for the constructor.

The destructor shall fulfill at least, the same requirements that the corresponding `Dispose()` method defined in ISO/IEC 30106-2 and ISO/IEC 30106-3.

In addition, most implementations shall declare the classes as exportable. Therefore, in this document a constant called `BIOAPI` is defined, allowing exportation of the classes.

EXAMPLE In Windows the definition of `BIOAPI` is: `#define BIOAPI __declspec(dllexport)`

To illustrate the use of the specification given in this document, refer to [Annex A](#).