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Australian Standard®

Information technology—Conformance testing for the biometric application programming interface (BioAPI)

Part 1: Methods and procedures

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This Australian Standard® was prepared by Committee IT-032, Biometrics and Identification.
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- Attorney General's Department
- Australian Business Limited
- Centrelink
- Department of Foreign Affairs and Trade
- The Biometrics Institute

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PREFACE

This Standard was prepared by the Standards Australia Committee IT-032, Biometrics and Identification.

The objective of this Standard is to provide a conformance testing methodology for AS ISO/IEC 19784.1. It specifies three conformance testing models that enable conformance testing of each of the following components—an application, a framework and a BSP. It also specifies an assertion language that is used for the definition of test assertions.

This Standard is identical with, and has been reproduced from ISO/IEC 24709-1:2007, *Information technology—Conformance testing for the biometric application programming interface (BioAPI)* – Part *1: Methods and procedures*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text 'this part of IEC/ISO 24709' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO/IEC		AS ISO/IEC	
19784	Information technology—Biometric application programming interface	19784	Information technology—Biometric application programming interface
19784-1	Part 1: BioAPI specification	19784.1	Part 1: BioAPI specification

The terms 'normative' and 'informative' are used to define the application of the annex to which it applies. A normative annex is an integral part of a Standard, whereas an informative annex is only for information and guidance.

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INTRODUCTION

This part of ISO/IEC 24709 defines a conformance testing methodology for ISO/IEC 19784-1. It specifies three conformance testing models that enable conformance testing of each of the following BioAPI components: an application, a framework and a BSP. It also specifies an assertion language that is used for the definition of test assertions. Actual test assertions for each of the BioAPI components are defined in subsequent parts of ISO/IEC 24709.

This part of ISO/IEC 24709 also contains informative guidelines regarding general concepts related to establishing and administering a BioAPI conformance assessment and certification program. These informative guidelines identify the types of activities, responsibilities, services and documentation recommended for conducting conformity assessment and certification of BioAPI-conformant implementations. Further, this part of ISO/IEC 24709 provides informative guidelines for establishing a complete conformity assessment methodology for BioAPI specification.

Clause 6 describes the general test method and conformance testing models for BioAPI.

Clause 7 defines the assertion language, based on XML, used for definition of conformance test assertion.

Clause 8 defines the elements of the assertion language.

Clause 9 specifies the use of the standard BioAPI interface functions of BioAPI in conformance testing.

Clause 10 defines the built-in variables of the assertion language.

Clause 11 defines the test log using XML syntax.

Clause 12 defines the test report using XML syntax.

Clause 13 describes the general concept and structure of a BioAPI conformance test suite.

Annex A is normative, and defines the XML schema of the assertion language.

Annex B is normative, and defines the ASN.1 schema of the assertion language.

Annex C is normative, and defines the XML schema for the test log.

Annex D is informative, and describes a primer of a BioAPI test method implementation, including elements of the conformance test process and description of the test categories.

Annex E is informative, and describes a general framework for the overall BioAPI Conformity Assessment Process.

Annex F is informative, and provides the relationship diagrams for the assertion language.

The Bibliography references a number of standards organizatons, including ISO, IEC, NIST and IEEE, and other organizations that have published a number of documents and white papers related to conformity assessments in general and conformance testing in particular.[1)]

1) Rather than make normative references to these documents, this part of the ISO/IEC 24709 incorporates appropriate excerpts of their text, in some cases paraphrasing the text or adapting the provisions to the specific circumstances. Therefore, these documents are listed in the Bibliography or are referenced explicitly in the body text, as appropriate.

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AUSTRALIAN STANDARD

Information technology—Conformance testing for the biometric application programming interface (BioAPI)

Part 1:
Methods and procedures

1 Scope

1.1 This part of ISO/IEC 24709 specifies the concepts, framework, test methods and criteria required to test conformity of biometric products claiming conformance to BioAPI (see ISO/IEC 19784-1). Guidelines for specifying BioAPI conformance test suites, writing test assertions and defining procedures to be followed during the conformance testing are provided.

1.2 This part of ISO/IEC 24709 is concerned with conformance testing of biometric products claiming conformance to BioAPI (see ISO/IEC 19784-1). It is not concerned with testing other characteristics of biometric products or other types of testing of biometric products (i.e. acceptance, performance, robustness, security, etc.). Testing by means of test methods which are specific to particular biometric products are not the subject of ISO/IEC 24709.

1.3 This part of ISO/IEC 24709 is applicable to the development and use of conformance test method specifications, BioAPI conformance test suites and conformance testing programs for BioAPI-conformant products. It is intended primarily for use by testing organizations, but may be applied by developers and users of test assertions and test method implementations.

2 Conformance

2.1 A BioAPI conformance test suite conforming to this part of ISO/IEC 24709 shall support one or more conformance testing models (see 6.2) and shall be able to execute any valid test assertion for the testing model(s) that it supports, and that are written in the assertion language specified in Clauses 7 through 10.

NOTE There is no restriction on the form or structure of a BioAPI conformance test suite, in terms of the number of software components, the tasks performed by each software component, or the content and form of the information exchanged between software components.

2.2 A BioAPI conformance test suite shall be able to verify the syntactic correctness of any package (see 7.1.6) containing assertions or activities (or both) for any conformance testing model, including the testing models that the implementation does not support (if any).

2.3 For each supported conformance testing model, a BioAPI conformance test suite shall be able to perform the actions (specific to a computing platform) necessary to interact with an implementation under test, making function calls to the standard BioAPI interface functions exposed by the implementation under test and receiving function calls from it.

NOTE 1 In the conformance testing model for BioAPI applications, it is not required that the BioAPI conformance test suite be able to start or stop the execution of the implementation under test, but needs a mechanism to detect the starting or ending of the application under test.

NOTE 2 It is not required that a BioAPI conformance test suite be able to test all implementations of the base standard that claim conformance to the base standard. This includes, but is not limited to, the case when the implementation of the base standard was created for a computing platform different from the one for which the BioAPI conformance test suite

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