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Australian Standard®

Information technology—Biometric performance testing and reporting

Part 2: Testing methodologies for technology and scenario evaluation



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- 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 requirements and recommendations on data collection, analysis and reporting specific to two primary types of evaluation—technology evaluation and scenario evaluation.

This Standard is identical with, and has been reproduced from, ISO/IEC 19795-2:2007, *Information technology — Biometric performance testing and reporting — Part 2: Testing methodologies for technology and scenario evaluation*.

ISO/IEC 19795 consists of the following parts, under the general title *Information technology — Biometric performance testing and reporting*:

Part 1: Principles and framework

Part 2: Testing methodologies for technology and scenario evaluation

The following parts are under preparation:

Part 3: Modality-specific testing [Technical Report]

Part 4: Performance and interoperability testing of data interchange formats

Part 5: Performance of biometric access control systems

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 ‘IEC/ISO 19795’ should read ‘AS ISO/IEC 19795’.

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None of the normative references in the source document have been adopted as Australian or Australian/New Zealand Standards.

The term ‘informative’ is used to define the application of the annexes to which it applies. An informative annex is only for information and guidance.

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INTRODUCTION

This part of ISO/IEC 19795 addresses two specific biometric performance testing methodologies: technology and scenario evaluation. The large majority of biometric tests are of one of these two generic evaluation types. Technology evaluations evaluate enrolment and comparison algorithms by means of previously collected corpuses, while scenario evaluations evaluate sensors and algorithms by processing of samples collected from Test Subjects in real time. The former is intended for generation of large volumes of comparison scores and candidate lists indicative of the fundamental discriminating power of an algorithm. The latter is intended for measurement of performance in modeled environments, inclusive of Test Subject-system interactions.

This part of ISO/IEC 19795 builds on requirements and best practices specified in ISO/IEC 19795-1, which addresses specific philosophies and principles that can be applied over a broad range of test conditions.

This part of ISO/IEC 19795 is meant to provide biometric system developers, deployers and end users with mechanisms for design, execution and reporting of biometric performance tests in a fashion that allows meaningful benchmarking of biometric performance within and across technologies, usage scenarios and environments.

AUSTRALIAN STANDARD

Information technology — Biometric performance testing and reporting —

Part 2:
Testing methodologies for technology and scenario evaluation

1 Scope

This part of ISO/IEC 19795 provides requirements and recommendations on data collection, analysis and reporting specific to two primary types of evaluation: technology evaluation and scenario evaluation.

This part of ISO/IEC 19795 specifies requirements in the following areas:

— development and full description of protocols for technology and scenario evaluations;

— execution and reporting of biometric evaluations reflective of the parameters associated with biometric evaluation types.

2 Conformance

A test shall claim conformance to either the technology evaluation or scenario evaluation clauses of this part of ISO/IEC 19795.

The set of clauses to which a scenario test shall conform differs from the set of clauses to which a technology test shall conform. In addition, the set of clauses to which an identification-system test shall conform differs from the set of clauses to which a verification-system test shall conform. To conform to this part of ISO/IEC 19795, an evaluation shall conform to clauses of this part of ISO/IEC 19795 as shown in Table 1.

Table 1 — Conformance for evaluation methodologies and comparison types

Evaluation methodology	Comparison type	Required clauses
Technology or scenario	Identification or verification	Clauses 5 and 8
Technology	Identification	All of Clause 6, except 6.3.3
Technology	Verification	All of Clause 6, except 6.3.4
Scenario	Identification	All of Clause 7, except 7.3.4
Scenario	Verification	All of Clause 7, except 7.3.5

3 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 19795-1, *Information technology — Biometric performance testing and reporting — Part 1: Principles and framework*

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