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Australian STANDARD®

STANDARDS Australia

Information technology — Biometric performance testing and reporting

Part 6: Testing methodologies for operational evaluation



AS ISO/IEC 19795.6:2025

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Australian Standard®

Information technology — Biometric performance testing and reporting

Part 6: Testing methodologies for operational evaluation

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This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

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

The objective of this document is to provide the following:

(a) Guidance on the operational testing of biometric systems.

(b) Performance metrics for operational systems.

(c) Data that may be retained by operational systems to enable performance monitoring.

(d) Requirements on test methods, recording of data, and reporting of results of operational evaluations.

This document does not —

(i) cover testing of operational systems in the laboratory; or

(ii) address vulnerability testing.

This document is identical to, and has been reproduced from, ISO/IEC 19795-6:2012, *Information technology — Biometric performance testing and reporting — Part 6: Testing methodologies for operational evaluation*.

As this document has been reproduced from an international document, the following apply:

(A) In the source text “this part of ISO/IEC 19795” is to be read as “this document”.

(B) A comma is to be read as a full point when referring to a decimal marker.

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The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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.

ISO/IEC 19795-6 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

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*

— *Part 3: Modality-specific testing* [Technical Report]

— *Part 4: Interoperability performance testing*

— *Part 5: Access control scenario and grading scheme*

— *Part 6: Testing methodologies for operational evaluation*

— *Part 7: Testing of on-card biometric comparison algorithms*

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Introduction

Operational tests evaluate complete biometric systems in the targeted operational environment with the target population. Tests may encompass performance monitoring of operational systems or assessment of performance in operational trials.

Operational performance assessment may be based on:

— data collected by the operational system in the course of normal operation;

— additional data collected during normal system use, but with the system running in an "evaluation mode" allowing extra data to be collected;

— data collected with a set of test subjects considered separately from the subject base of the operational system.

Operational evaluation differs from technology or scenario evaluation in that the subject base, environment, and system design are no longer controlled for the purpose of repeatable testing, but vary in accordance with operational use. Examples of uncontrolled variables include the legitimacy of the subject's identity claim, environmental effects from weather or lighting, or the variability of system use by different individuals.

The overarching goals of operational testing are to measure or monitor operational biometric system performance over a period of time.

Subgoals of operational testing may include:

— to determine if performance meets the requirements specified for a particular application or the claims asserted by the supplier;

— to determine the need to adjust or configure the system to improve performance;

— to predict performance as the numbers of subjects, locations, or devices increase;

— to obtain information on the target population and environmental parameters found to affect system performance;

— to obtain performance data from a pilot implementation;

— to obtain performance data to benchmark future systems.

This part of ISO/IEC 19795 provides the test planning, test conduct, performance measurement, test reporting, and record keeping requirements to be followed during a biometric system's operational evaluation.

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NOTES

Australian Standard®

Information technology — Biometric performance testing and reporting

Part 6: Testing methodologies for operational evaluation

1 Scope

This part of ISO/IEC 19795:

— provides guidance on the operational testing of biometric systems;

— specifies performance metrics for operational systems;

— details data that may be retained by operational systems to enable performance monitoring; and

— specifies requirements on test methods, recording of data, and reporting of results of operational evaluations.

NOTE Some operational biometric systems perform a single biometric function. For example, in the initial stages of rollout of biometric passports, the operational system might be performing biometric enrolment only. Operational evaluation of such systems is within the scope of this part of ISO/IEC 19795.

This part of ISO/IEC 19795 does not:

— cover testing of operational systems in the laboratory or

— address vulnerability testing.

2 Conformance

An operational evaluation is in conformance with this part of ISO/IEC 19795 if it is planned, executed and reported in accordance with the requirements of Clause 6.

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*

4 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19795-1 and the following apply.

4.1
acclimatization
change, over the course of one or more transactions, of a biometric characteristic that might impact the ability of a system to process a sample

Note 1 to entry: Acclimatization is primarily associated with a subject's temporal adjustment to environmental effects, such as skin temperature.

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