AS ISO/IEC 20027:2025
ISO/IEC 20027:2018

Information technology — Guidelines for slap tenprint fingerprintture



AS ISO/IEC 20027:2025

This Australian Standard® was prepared by IT-032, Biometrics and Identification. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 28 May 2025.

This Standard was published on 27 June 2025.

The following are represented on Committee IT-032:

Department of Defence (Australian Government)
Department of Foreign Affairs and Trade (DFAT)
Department of Home Affairs - Digital and Technology Policy Division
Photo Marketing Association
SITA

This Standard was issued for comment as DR AS ISO/IEC 20027:2025

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals and new products by visiting:

www.standards.org.au

ISBN: 978 1 76175 250 6

AS ISO/IEC 20027:2025

ISO/IEC 20027:2018

Australian Standard®

Information technology — Guidelines for slap tenprint fingerprintture

First published as AS ISO/IEC 20027:2025.

© ISO/IEC 2025 — All rights reserved
© Standards Australia Ltd 2025

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

How to read this Standard

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 guidelines to follow during the acquisition process of slap tenprints in order to obtain fingerprints of the best quality possible within acceptable time constraints.

Non-cooperative users are out of the scope of this document.

When using ten-fingerprint sensors, it is fundamental to know how to use them and how to proceed with the acquisition. This document describes how to capture fingerprints correctly by specifying best practices for slap tenprint captures.

It gives recommendations on the following topics:

(a) Hardware of the fingerprint sensor and its deployment.

(b) User guidance.

(c) Enrolment process including a sample workflow.

(d) Application software for developers and system integrators.

(e) Processing, compression and coding of the acquired fingerprint images.

(f) Operational issues and data logging.

(g) Evaluation of a solution and its components.

Although this document primarily focuses on reaching optimal data quality for enrolment purposes, the recommendations given here are applicable for other purposes. All processes which rely on good quality tenprint slaps can take advantage of the best practices.

This document is identical to, and has been reproduced from, ISO/IEC 20027:2018, *Information technology — Guidelines for slap tenprint fingerprintture*.

As this document has been reproduced from an international document, a comma is to be read as a full point when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

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.

© Standards Australia Limited 2025

Contents

Page

Preface ..... **v**
Foreword ..... **vii**
Introduction ..... **viii**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Sensor hardware requirement **2**
5 Acquisition software **2**
5.1 Acquisition process 2
5.2 User feedback 2
5.3 Acquisition check 3
5.4 Image processing 3
5.4.1 Resolution 3
5.4.2 Segmentation 3
5.4.3 Compression 4
6 Logging and evaluation of data **4**
6.1 Logging data 4
6.2 Useful statistical evaluations 5
7 Operational process **5**
7.1 General user guidance 5
7.2 Acquisition process recommendations 8
8 Operational issues **10**
8.1 Placement recommendations 10
8.2 Calibration recommendations 10
8.3 Cleaning recommendations 11
8.4 Operator recommendations 11
Annex A (informative) **Example of an acquisition process** **12**
Annex B (informative) **Example of an acquisition process based on composite records** **13**
Annex C (informative) **Example of a quality assurance process for the build of a composite record** **15**
Bibliography **16**

© Standards Australia Limited 2025

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.

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

This first edition cancels and replaces ISO/IEC TS 20027:2015, which has been technically revised.

The main changes compared to the previous edition are as follows:

— Clauses 2 and 3 have been added according to the ISO/IEC Directives, Part 2;

— in 5.2, a new example of ways to give feedback has been added.

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.

© Standards Australia Limited 2025

Introduction

The slap tenprint capture process captures multiple slap images which contain all ten fingerprints.

Slap fingerprints, or “simultaneous plain impressions”, are simply multiple flat fingerprints captured at the same time.

A single slap image contains four fingerprints from one hand, so two slap images contain eight fingerprints.

A third slap image is captured containing the two thumbprints, so three slap images contain all ten fingerprints.

© Standards Australia Limited 2025