

Australian Standard<sup>®</sup>

**Information technology—Biometric data  
interchange formats**

**Part 2: Finger minutiae data**

**STANDARDS**  
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This Australian Standard® was prepared by Committee IT-032, Biometric and Identification. It was approved on behalf of the Council of Standards Australia on 9 March 2007. This Standard was published on 2 July 2007.

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  - Australian Business Limited
  - Australian Electrical and Electronic Manufacturers Association
  - Centrelink
  - The Biometric Institute
- 

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**RECONFIRMATION**

**OF**

**AS ISO/IEC 19794.2—2007**

**Information technology—Biometric data interchange formats  
Part 2: Finger minutiae data**

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## PREFACE

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

The objective of this Standard is to make available to the Australian biometrics community the core ISO SC37 standards published over the last 24 months, specifically the biometric data interchange formats fingerprint minutiae data.

This Standard is identical with, and has been reproduced from ISO/IEC 19794-2:2005, *Information technology—Biometric data interchange formats—Part 2: Finger minutiae data*

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 ISO/IEC 19794’ should read ‘this Australian Standard’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
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
19785	Information technology—Common Biometric Exchange Formats Framework	19785	Information technology—Common Biometric Exchange Formats Framework
19785-1	Part 1: Data element specification	19785.1	Part 1: Data element specification
19785-2	Part 2: Procedures for the operation of the Biometric Registration Authority	19785.2	Part 2: Procedures for the operation of the Biometric Registration Authority

Only international references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. 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

In the interest of implementing interoperable biometric recognition systems, this part of ISO/IEC 19794 establishes a data interchange format for minutiae-based fingerprint capture and recognition equipment. Representation of fingerprint data using minutiae is a widely used technique in many application areas.

This part of ISO/IEC 19794 defines specifics of the extraction of key points (called *minutiae*) from fingerprint ridge patterns. Two types of data formats are then defined: one for general storage and transport, one for use in card-based systems; the card format has a standard and a compact expression.

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AUSTRALIAN STANDARD

# Information technology — Biometric data interchange formats —

## Part 2: Finger minutiae data

### 1 Scope

This part of ISO/IEC 19794 specifies a concept and data formats for representation of fingerprints using the fundamental notion of minutiae. It is generic, in that it may be applied and used in a wide range of application areas where automated fingerprint recognition is involved. This part of ISO/IEC 19794 contains definitions of relevant terms, a description of how minutiae shall be determined, data formats for containing the data for both general use and for use with cards, and conformance information. Guidelines and values for matching and decision parameters are provided in an informative annex.

### 2 Conformance

A system conforms to this part of ISO/IEC 19794 if it satisfies the mandatory requirements herein for extraction of minutiae from a fingerprint image as described in Clause 6 and the generation of a minutiae data format as described in Clause 7 (for general data interchange use) or Clause 8 (for use with cards). Since any finger minutiae extraction and matching algorithm supporting the described finger minutiae data interchange formats may be used, interoperability testing is of extreme importance, especially for environments in which components of different manufacturers interact. In ISO/IEC 19795 "Information technology - Biometric performance testing and reporting," test methodologies and performance testing of biometric data interchange formats are outlined. The application specific policies and relevant standards will determine the requirements for conformance testing and evaluation affecting levels of interoperability.

### 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 7816-11:2004, *Identification cards — Integrated circuit cards — Part 11: Personal verification through biometric methods*

ISO/IEC 19784-1:—<sup>1</sup>), *Information technology — Biometric application programme interface — Part 1: BioAPI specification*

ISO/IEC 19785-1:—<sup>1</sup>), *Information technology — Common Biometric Exchange Formats Framework — Part 1: Data element specification*

ISO/IEC 19785-2:—<sup>1</sup>), *Information technology — Common Biometric Exchange Formats Framework — Part 2: Procedures of the operation of the Biometric Registration Authority*

### 4 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 4.1 algorithm

a sequence of instructions that tell a biometric system how to solve a particular problem. An algorithm will have a finite number of steps and is typically used by the biometric engine (i.e., the biometric system software) to compute whether a biometric sample and template are a match.

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1) To be published.