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Guidance for biometric enrolment

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National foreword

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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.

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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — supplementary information](#).

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

Introduction

One of the most important contributions to a successful biometric-based recognition system is a consistent enrolment service that generates the biometric data required for subsequent recognition of individuals. Subsequent verifications or identifications will be compared with the biometric data collected at enrolment. If the quality of capture at enrolment is not maintained consistently, the operators of a recognition system which depends on a good enrolment are likely to experience unreliable performance. For those who are enrolled in a verification system, a poor quality enrolment will result in inconvenience should they fail to be recognized. (Readers of this report should note that quality has a specific meaning when applied to biometric systems; a high quality capture is one that results in biometric data that provides good match scores when compared with other high quality images from the same biometric feature.)

By analysing the requirements for a good enrolment from the perspectives of a range of stakeholders, it is possible to derive a set of principles to guide the development of a biometric enrolment policy and the deployment of a service. Where enrolment is outsourced to a third party, it is extremely important to be able to measure quality metrics rather than quantity metrics, since the technical and business objectives of the two organisations (the Relying Party and the Enrolment Authority, as defined in this document) may, in general, not be aligned.

Although the recommendations and guidelines in this report are directed in the main at the parties responsible for the enrolment itself and for management of the enrolment service (noting that these two entities may be one and the same), they will also be of value to the designers and developers of enrolment systems.

Guidance for biometric enrolment

1 Scope

This report consolidates information relating to successful, secure and usable implementation of biometric enrolment processes, while indicating areas of uncertainty that organisations proposing to use biometric technologies will need to address during procurement, design, deployment and operation. Much of the information is generic to many types of application e.g. from national scale commercial and government applications, through to closed user group systems for in-house operations, and to consumer applications where convenience rather than security is the primary driver for adoption of biometric technologies.

The report points out the differences in operation relating to specific types of application, e.g. where self-enrolment is more appropriate than attended operation. This report will focus in the main on fixed location enrolments at a number of sites in an organization, where there is an attendant who supports the biometric applicant in effecting a successful enrolment, and where enrolment is a mandatory requirement. In summary, this report consolidates information relating to better practice implementation of biometric enrolment capability in various business contexts including considerations of legislation, policy, process, function (system) and technology.

The report provides guidance as to the collection and storage of biometric enrolment data and the impact on dependent processes of verification and identification. This report will not aim to include material specific to forensic and law enforcement applications.

The recommendations contained in the report are not mandatory.

2 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 2382-37 and the following apply.

2.1

biometric applicant

individual seeking to be enrolled in a biometric enrolment database

2.2

designers and developers

organization or individuals responsible for the design, development, (and deployment, if applicable) of the enrolment system

2.3

duty officer

individual acting on behalf of either the enrolment authority or operator either present in the vicinity of one or more enrolment stations, or available on line or by telephone, trained to provide advice and guidance to an enrolment officer in case of difficulty

Note 1 to entry: The duty officer may also have a role in determining exception handling routines.

2.4

enrolment authority

organisation (or other entity) with legal and contractual responsibilities for the completion of enrolment processes