International Standard

ISO/IEC 17839-3

Information technology — Biometric System-on-Card —

Part 3: Logical information interchange mechanism

Technologies de l'information — Système biométrique sur carte —

Partie 3: Mécanisme d'échange de l'information logique

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Foreword

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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 or www.iec.ch/members_experts/refdocs).

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For an explanation of 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 www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and security devices for personal identification*.

This second edition cancels and replaces the first edition (ISO/IEC 17839-3:2016), which has been technically revised.

The main changes are as follows:

— aligned with ISO/IEC 24787-1:2024;

— improved terms and definitions;

— restructured feedback messaging;

— corrected feedback message format and examples;

— updated all figures;

— updated Annex A and Annex C;

— introduced autonomous enrolment in Annex F.

A list of all parts in the ISO/IEC 17839 series can be found on the ISO and IEC websites.

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 and www.iec.ch/national-committees.

Introduction

A Biometric System-on-Card (BSoC) is a portable card-sized device including the following entities: biometric capture, image/signal processing, storage, comparison, decision and action. The use of a BSoC with such specifications is subject to an information flow and security mechanisms, which are detailed in this document.

ISO/IEC 17839-1 describes two types of BSoC. Type ID-1 is a fully flexible card conformant with ISO/IEC 7810. Type ID-T deviates from some of the requirements of size and flexibility, while keeping the rest of the requirements intact, including the use of a contactless ICC interface. The logical interface and security mechanisms are independent on whether the BSoC is of type ID-1 or type ID-T, so the specifications stated in this document are applicable to both types of BSoC.

The ISO/IEC 17839 series is organized into three separate documents:

— ISO/IEC 17839-1, *Biometric System-on-Card — Core requirements*

— ISO/IEC 17839-2, *Biometric System-on-Card — Physical characteristics*

— ISO/IEC 17839-3, *Biometric System-on-Card — Logical information interchange mechanism* (this document)

Information technology — Biometric System-on-Card —

Part 3:
Logical information interchange mechanism

1 Scope

This document specifies:

— logical data structures for a Biometric System-on-Card (BSoC);

— enrolment procedures; and

— usage of commands and data structures defined in other International Standards for BSoC.

This document does not define requirements for:

— commands and data structures that apply to devices external to a BSoC;

— commands and data structures that apply to logical interfaces inside a BSoC.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2382-37, *Information technology — Vocabulary — Part 37: Biometrics*

ISO/IEC 7816-4, *Identification cards — Integrated circuit cards — Part 4: Organization, security and commands for interchange*

ISO/IEC 7816-11, *Identification cards — Integrated circuit cards — Part 11: Personal verification through biometric methods*

ISO/IEC 18328-3, *Identification cards — ICC-managed devices — Part 3: Organization, security and commands for interchange*

ISO/IEC 24787-1, *Information technology — On-card biometric comparison — Part 1: General principles and specifications*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/