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Card and security devices for personal identification — Programming interface for security devices —

Part 3: Proxy

Cartes et dispositifs de sécurité pour l'identification personnelle — L'interface du logiciel pour dispositifs de sécurité —

Partie 3: Proxy

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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

A list of all parts in the ISO/IEC 23465 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

Integrated circuit card (ICC) technologies and solutions are widely deployed around the world, but systems for identity tokens and credentials are quickly changing. In this context, the application protocol data unit (APDU) protocol outlined in the ISO/IEC 7816 series is becoming, in some cases, a hindrance to the integration of integrated circuits (ICs) in environments such as mobile phones, handheld devices, connected devices (e.g. M2M, IoT) or other application using security devices.

Stakeholders often request an abstraction layer hiding IC specifics to avoid the complexity of APDU protocols. However, even solutions based on those kinds of middleware are perceived as cumbersome in some systems. The market looks for a middleware memory footprint to be as low as possible. This document aims to overcome or mitigate those issues by proposing a new approach that would preserve ICC functionality and allow for a seamless ICC portability onto new systems.

The ISO/IEC 23465 series focuses on a solution by designing an application programming interface (API) and a system with these characteristics:

— It offers a subset, from the ISO/IEC 7816 series, of mostly used multi-sectorial ICC functions.

— It results in no further middleware or very little middleware memory footprint (i.e. simplified drivers).

— It requires a simplified ICC capability discoverability (i.e. with significantly less complexity than ISO/IEC 24727-1). [3]

The ISO/IEC 23465 series is comprised of three parts, each focusing on a specific topic:

— ISO/IEC 23465-1: provides an introduction to the series and a short overview of the architecture;

— ISO/IEC TS 23465-2: defines the API for client applications allowing incorporation and usage of security devices;

— ISO/IEC TS 23465-3 (this document): describes the software (SW) called "proxy" which provides different services, e.g. to convert the API calls into serialized messages to be sent to the security device.

The ISO/IEC 23465 series is intended to be used by any sector relying on the interchange defined, but not limited to, the ISO/IEC 7816 series.

Card and security devices for personal identification — Programming interface for security devices —

Part 3: **Proxy**

1 Scope

This document describes the software (SW) layer called “proxy”. It supports the programming interface to security devices and the application using this API to access the application related security devices defined in ISO/IEC TS 23465-2.

This document is applicable to:

- proxy requirements, functionality and layers;
- resolving mechanisms for API functions;
- data structures related to security device handling;
- translation for security device communication;
- serialization/de-serialization syntax and methods.

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 23465-1, *Card and security devices for personal identification — Programming interface for security devices — Part 1: Introduction and architecture description*