



## WP32 - eID Services

### D32.6 – Tool for automated creation of CardInfo files

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## Abstract

The FutureID project builds a comprehensive, flexible, privacy-aware and ubiquitously usable identity management infrastructure for Europe. It integrates existing eID technologies, trust infrastructures, emerging federated identity management services, and modern credential technologies. It creates a user-centric system for the trustworthy and accountable management of identity claims.

The FutureID client runs as a middleware which is capable of facilitating arbitrary smartcards based on the abstract description of CardInfo files. The middleware implements the card agnostic protocols using these files in the Service Access Layer (SAL). Due to the verbose nature of CardInfo files, it is a tedious and error prone process to create these files in a manual process. Typical smart cards nowadays are based on ISO/IEC 7816-4 and -15, standards which define ways to interact with the card and allow introspection of the entities on the card.

This document contains the manual to operate the tool called CardInfo-Wizard, which allows to derive a CardInfo file from an ISO/IEC 7816 based smart card.

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## Document Information

### History

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## 1. Introduction

In order to create CardInfo structures according to CEN 15480 [1] for a large variety of smart cards (cf. Section 1.2.1) there need to be appropriate tools, which analyze the internal structure of the smart cards by sending an appropriate sequence of commands to the card and analyzing the responses to create the standardized CardInfo structures. A tool, the CardInfo-Wizard, for this task is implemented in this deliverable. This document describes its usage.

### 1.1 Outline

The document is structured as follows: Section 2 provides details of the system requirements needed to execute the CardInfo-Wizard. Section 3 describes the usage of the CardInfo-Wizard.

### 1.2 Terminology

This section describes the meaning of the most important words used in this document to precise communication and to provide a common understanding.

#### 1.2.1 Key Words

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [2].

#### 1.2.2 Abbreviations and Notations

This section itemizes the abbreviations and notations used in this document.

APDU	Application Protocol Data Unit
JRE	Java Runtime Environment
PC/SC	Personal Computer/ Smart Card
SAL	Service Access Layer

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## 2. System Requirements

In order to run the CardInfo-Wizard the following system requirements must be met.

### 2.1 Software

- Java JRE (version  $\geq 7$ )  
The Java JRE can be obtained from <http://java.com>
- PC/SC Framework  
Windows systems have PC/SC bundled. On other systems such as Linux, the framework from the pcsclite<sup>1</sup> project can be used. Please follow the instructions of your distribution to install the software.

### 2.2 Hardware

- Smart card reader with a PC/SC driver  
Current smart cards have a contact and/ or a wireless interface. Make sure you have the appropriate device for the respective smart card.

<sup>1</sup> <http://pcsclite.alioth.debian.org/>

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### 3. Usage

The following section will describe the usage of the CardInfo-Wizard. It begins by starting the application, describes what settings have to be made in order to read the information from the card and is concluded with how to write a CardInfo file.

The key functionality of the tool is to read data from a smart-card which describes the card at hand, so that a CardInfo file can be created afterwards. There are different specifications for self-describing smart cards. The most wide spread specification can be found in ISO/IEC 7816-15 [3]. The implementation to extract data after some specification is called strategy in the CardInfo-Wizard. The only officially supported strategy in this tool is the ISO/IEC 7816-15 strategy.

#### 3.1 Startup

The CardInfo-Wizard is a single executable jar file. It can be executed directly if the Operating System has Java installed correctly and no other programs are interfering with the filetype associations.

#### 3.2 Reading a Smart-Card

After the CardInfo-Wizard has been started successfully, the screen shown in Figure 1 can be seen. In order to read the necessary information from the smart-card, two selections must be made.

1. The Card Terminal with the connected smart card.
2. Strategy to be executed. The ISO/IEC 7816-15 based strategy is preselected.

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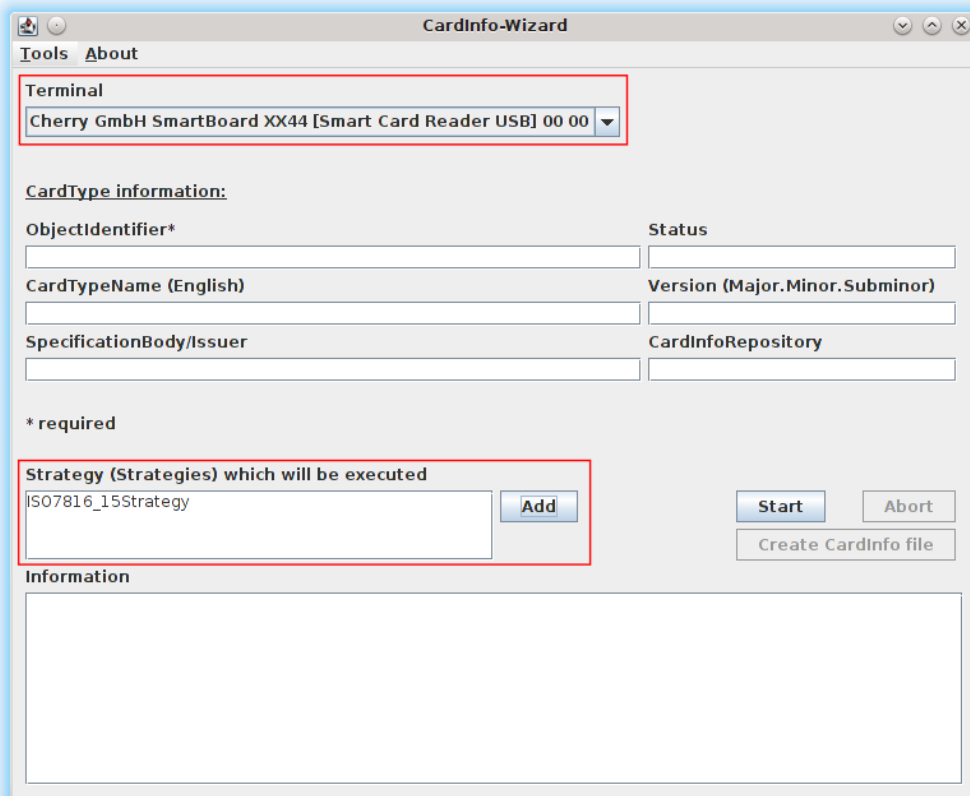


Figure 1 – CardInfo-Wizard Main Screen: Read Preparations

The read process can then be started after pressing the Start Button. During the process, messages describing the steps of the strategy will be printed in the Information panel. A dialog will Pop-up when the execution is complete as the example in Figure 2 shows.



Figure 2 - Information panel and Finished Pop-up

### 3.3 Writing the CardInfo File

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Besides the technical information of the smart-card, organizational values must be given to the CardInfo-Wizard in order to create a complete CardInfo File. Figure 1 shows the fields for these values under the group Card Type Information. The ObjectIdentifier is the only necessary field, however it is advisable to fill out the other forms as well. Details on the meaning of these fields can be found in the description of the CardType element in CEN 15480 [1].

After filling out the missing values, a click on the Create CardInfo File button opens a save file dialog as shown in Figure 3.

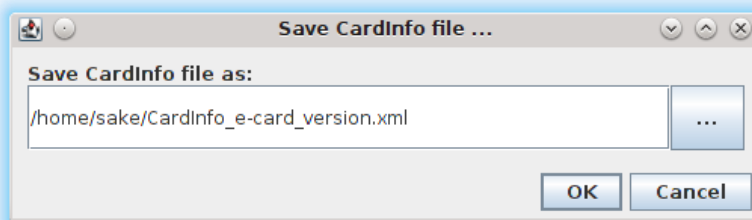


Figure 3 – Save CardInfo File dialog

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## 4. Literaturverzeichnis

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- [3] ISO/IEC, *Identification cards - Integrated circuit cards - Part 15: Cryptographic information application*, International Standard, ISO/IEC 7816-15, 2004.

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