secunet
GRT platinum edition

Global inter-operability & security for eID readouts

Reliable. Seamless. Secure.

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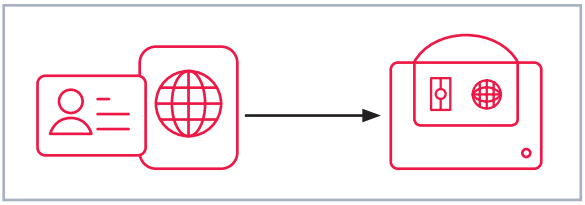
With the Golden Reader Tool (GRT), secunet takes the readout of electronic Identity Documents (eIDs) to the next level and ensures secure and efficient processing of electronic identities.

In order to make identity readouts for travelers more efficient and secure, many countries have introduced electronic Machine-Readable Travel Documents (eMRTD) - such as electronic Passports – that integrate biometric features via RFID chips.

This advancement has been widely adopted globally1.

The term eID refers broadly to all official identity documents, including national ID cards, electronic residence permits, and visas. Some of these documents specifically belong to the eMRTD category, which means they are designed to be machine-readable for travel purposes.



Every form of eID, be it an electronic passport, must comply with global security and data format standards. To achieve this high level of security and interoperability, standardized solutions are essential – ones that combine robust protection mechanisms with practical usability.

Multifunctional technology for the interoperability of eIDs

On behalf of the German Federal Office for Information Security (BSI), secunet developed and continuously enhanced the GRT an inspection application for the secure and standard-compliant reading of eIDs. Our solution is based on global specifications from the International Civil Aviation Organization (ICAO), the European Union (EU), and other standards.

Besides, it has proven itself in numerous RFID interoperability tests and remains a recognized example in the field of eIDs.

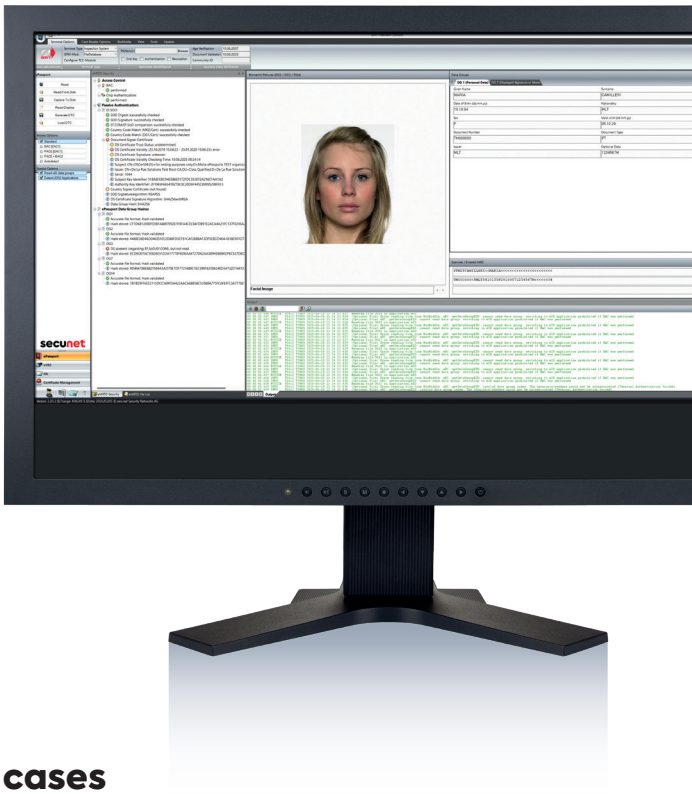
GRT offers comprehensive support for BAC, PACE, EAC, CA, TA, and AA chip protocols, making a flexible configuration of the reading process possible. It also enables the management of CSCA certificates, master lists, revocation lists (CRLs), defect lists, as well as terminal certificates (CVCA/DV) and keys to meet the highest security requirements.

The solution displays data structures and communication protocols transparently and offers detailed insights, e.g., through the Application Protocol Data Unit (APDU) trace function.

To conclude, it also supports the reading and generation of Digital Travel Credentials (DTC) type 1 and allows the export of the read data as a file or report in accordance with relevant security guidelines.

[1] Source: ICAO ePassport Basics

Comprehensive Analysis and Security Insights with the GRT.



Advantages and key components of the GRT

GRT, available for Windows 10/11, enables a comprehensive visual representation of the read data groups and facilitates the analysis of complex security structures.

Beyond these, GRT offers a seamless interaction with the secunet biomiddle middleware, included in the license package.

This integration enables the automated capture of the Machine-Readable Zone (MRZ) of viewed eIDs.

```
IDD<<LZ6311T475<<<<<<<<<<<<<<
8308126<3110315D<<2108<<<<<9
MUSTERMANN<<ERIKA<<<<<<<<<<<
```

secunet biomiddle as well as GRT as standalone, rely on the well-known ePassportAPI library for the secure access to the RFID chip of viewed eIDs.

GRT use cases

GRT offers a powerful solution for manufacturers of hardware and software as well as public authorities who want to read, test and apply data and security mechanisms in the area of eIDs.

Government authorities benefit from its capabilities to verify or adjust the functionality and data of eIDs before issuance.

Additionally, security agencies can utilize GRT to detect forged documents, making it an essential tool in fraud prevention.

At the same time, software and hardware providers can test the functionality of their components within an integrated system, ensuring seamless compat-ibility and reliable performance.

At a glance

The GRT is ...

- **Recognized:** Use a globally proven reference implementation.
- **Flexible:** Thanks to a standard-oriented approach.
- **Efficient:** Rely on lean, fast implementation in existing infrastructures with minimal effort.

Overview: GRT – all you need to know

Documents

- Electronic Identity Documents (eIDs), in particular Electronic Machine-Readable Travel Documents (eMRTDs), similar to German-issued documents
- Further: International Driver' s License (IDL)
- Further: Electronic Vehicle Registration Card (eVRC)

Supported chip protocols

- BAC, PACE, EAC, CA, TA, AA – Flexible configuration of the reading process

Certificate management

- CSCA certificates and master lists, revocation lists (CRLs), defect lists, as well as terminal certificates (incl. CVCA/DV) and keys

Transparent display

- Visualization of data structures and communication protocols

Analysis and debugging tools

- APDU trace function for detailed insights

Document certificates

- Read and generation of Digital Travel Credentials (DTC) type 1

Data export

- Option to output read chip data as a file or report in accordance with security guidelines

Supported framework conditions

- ICAO Doc 9303
- EC Nr. 444/2009 and EC Nr. 2252/2004
- ISO/IEC 19784-1
- ISO/IEC 19785
- ISO/IEC 19794-4
- ISO/IEC 19794-5
- ISO/IEC 19794-6
- BSI TR-03110
- BSI TR-03129
- ISO/IEC 39794-4
- ISO/IEC 39794-5
- ISO/IEC 39794-6

Outlook and highlights for upcoming releases

- Redesign of the user interface
- Adjusted ASN1-Parser

secunet Security Networks AG
Kurfürstenstraße 58 · 45138 Essen · Germany
T +49 201 5454-0 · info@secunet.com
secunet.com

More information:
www.secunet.com/en/GRTplatinum

Factsheet_ secunet GRT_EN_06/2025 Subject to change