

# Test tool for smart cards and document readers

on an open-source basis



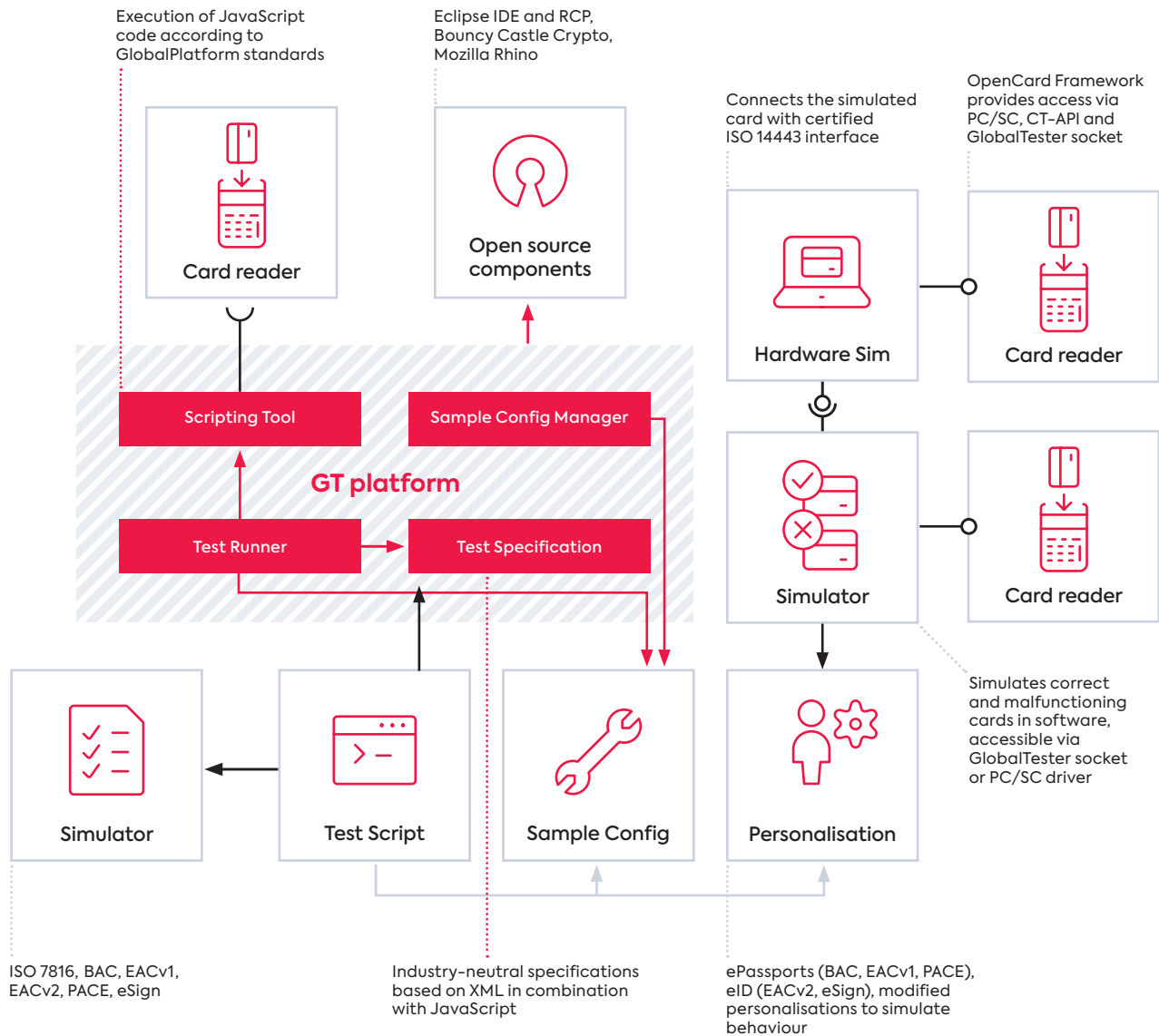
**In secunet GlobalTester, manufacturers of both identity documents and readers have access to an automated testing tool which is open-source-based and therefore unique worldwide.**

Verification of more than 500 million electronic passports<sup>1</sup> in use at international borders requires their interoperability. This also applies for the corresponding readers and for the use of electronic identity documents in eGovernment and access control applications in general. Since 2004, when the first generation of electronic passports was introduced, the conformity checks have progressed significantly. During this time secunet's GlobalTester team has been actively involved in the standardisation and development of test specifications.

### **Extensive testing tools and services**

With the testing tool secunet GlobalTester and the "Prove" product family which is based on it, secunet offers test suites for testing smart card protocols. These are based on the latest test specifications published by the German Federal Office for Information Security (BSI), the International Civil Aviation Organization (ICAO) and the International Organisation for Standardisation (ISO). The product family comprises a range of APIs for the simulation of smart cards and smart card readers as well as simulators for electronic passports, electronic ID cards and electronic driving licences.

<sup>1</sup> Source: Biometrics Research Group



## Our offering for manufacturers of identity documents, electronic driving licences and readers

- Conformity checks for smart cards and readers based on ICAO, ISO and BSI test standards including test execution, failure analysis and test report
- Consulting services related to the conformity of smart cards and readers or protocols, e.g. interpretation of the requirements of standards and test specifications or customer-specific development of test cases
- Open-source-based testing tool which can be adapted flexibly to customer-specific requirements, test cases and different card configurations.

## Benefits

- Extensive experience in standardisation and conformity testing of eIDs
- Open-source-based platform allows flexible customization of the test tool
- Detailed failure analysis, traceability and maximum transparency

## Functionality of the modules

The Test Specification module allows the user to view the test specification in XML format, to make his own adjustments and if necessary specify and implement customized test cases.

Our one-step approach of test specification and test execution allows users to execute test suites or individual test cases directly with the Test Specification module based on specific software test methods.

The Test Runner module allows users to execute tests, generate test reports and display and analyse results. Several functions allowing the traceability of results (e.g. repeating of test suites) assist users during the product development of smart cards and readers and in the analysis and correction of errors.

## Failure analysis and reporting

The Failure Analysis and Reporting module offers the automatic generation of test reports and log files. Errors and problems are located automatically. Detailed log files describe both sides of the communication protocol to allow failures to be analysed precisely.

The test suites in the conformity tests are based on JavaScript, GlobalPlatform2 and XML. All conformity tests can be adapted to specific customer requirements and expanded using JavaScript. Customers can develop their own test suites themselves.

## GlobalTester – Open Source

### Reader tests

- Test suite for conformity test
- Smart card simulators (EACv1, EACv2, PersoSim)
- ISO 14443 card simulators/virtual card readers

### Smart card tests

- Test suite for conformity test
- Smart card APIs (EACv1, EACv2)
- Card readers

<sup>2</sup> <https://www.globalplatform.org/>

Features	ePP	IS	ePA	ePA Reader	IDL	Test Specification
<b>Test suites for Chip Testing</b>						
BAC	✓					ICAO Test Spec* Part 3
EACv1	✓					BSI TR-03105 Part 3.2
PACE	✓		✓			BSI TR-03105 Part 3.3
						ICAO Test Spec* Part 3
EACv2			✓		✓	ISO/IEC 18013-4
						BSI TR-03105 Part 3.3
eSign			✓			BSI TR-03105 Part 3.4
BAP					✓	ISO/IEC 18013-4
<b>Test Suites for Terminal Testing</b>						
BAC		✓				BSI TR-03105 Part 5.1
EACv1		✓				BSI TR-03105 Part 5.1
PACE		✓		✓		BSI TR-03105 Part 5.2
						ICAO Test Spec* Part 4
EACv2				✓		BSI TR-03105 Part 5.2/5.3
eSign				✓		BSI TR-03105 Part 5.2/5.3
eID terminals						BSI TR-03105 Part 5.2/5.3
<b>API</b>						
BAC	✓	✓				ICAO Doc 9303
PACE	✓	✓	✓	✓		BSI TR-03110
EACv1	✓	✓				BSI TR-03110
EACv2			✓	✓		BSI TR-03110
<b>Simulator</b>						
ePassport (EACv1, PACE)		✓				BSI TR-03110, ICAO Doc 9303

\*ICAO RF Protocol and Application Test Standard

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