



Integri

a Clear2Pay company

INQ® End-to-End Payment Platform

EMV Card Simulators

Description

When testing terminal applications, smartcards play an important role. Using physical test cards has a lot of disadvantages: they need to be produced, they only cover normal cases, they cannot be used to simulate error situations, they need to be manipulated (time consuming), and the test process cannot be automated.

Therefore Integri has developed the Card Simulators. These Card Simulators can be used in the 'Terminal Testing' configuration of the End-to-End Payment Platform. A card probe is inserted in the terminal and forwards APDUs to INQ via tcp/ip. INQ simulates the smartcard according to the official specifications. Ready-to-use simulators (see list below) are available, while others can easily be developed by Integri or yourself.

Requests are fully analyzed and a corresponding response is generated. In addition, test scripts can fully control the card's behavior:

SW1/SW2 response codes can be changed, data can be modified, errors can be injected, and timeouts can be forced. The Card Simulators can be also be used in the 'Host Testing' configuration of the End-to-End Payment Platform. In this case, the Card Simulator is used to provide all the card data of a host request and to check the corresponding responses (including ARPC checking and issuer scripting).

| Name | Value |
|--|--|
| 2004-03-05 17:46:06:966 | Test Passed at : 2004-03-05 17:46:11:7930 ; C1_02_01_1 |
| Test Started | C1_02_01_1 |
| Comment | J/SMART |
| SELECT | |
| SELECT Received Response | CC = 9000 : OK |
| SELECT Emulated Response | CC = 9000 : OK |
| GET_PROCESSING_OPTIONS | |
| GET_PROCESSING_OPTIONS Received Response | CC = 9000 : OK |
| GET_PROCESSING_OPTIONS Emulated Response | CC = 9000 : OK |

Test Passed at : 2004-03-05 17:46:11:7930

Highlights

- Indispensable for debugging and quality assurance of terminal applications
- Tests can be executed interactively or in an automated way
- Off-the-Shelf Solutions are available for all relevant EMV implementations.
- User can easily modify or add test scripts.
- Comprehensive log, containing the full details of completed transactions

Out of the box testing



Technical Specifications

Following is available off-the-shelf:

- J-Smart Card Simulator (J-Smart 2.0)
 - JCB IC card specification – version 2.0, April 2002
 - JCB specifications annexes – version 2.0, April 2002
 - JCB specification errata – version 2.0
- M/Chip 4 Card Simulator (M/Chip Lite 4 and M/Chip Select 4)
 - M/Chip 4 Card application specifications for credit and debit – version 1.0, October 2002
 - M/Chip 4 Security and Key Management – version 1.0, October 2002
 - M/Chip 4 Card personalization for application type approval, Version 1.8, October 19, 2005
 - Addendum to M/Chip 4 Card application specification, December 2005
 - Errata sheet for addendum to M/Chip 4 card application specification, March 24, 2006
- MODS V2.0.0 Card Simulator
 - MasterCard Open Data Storage V2.0.0
- VIS Card Simulator (VIS 1.3.2 and VIS 1.4.0)
 - VISA Integrated Circuit Card –Specification version 1.3.2, July 1999
 - VISA Integrated Circuit Card – Specification version 1.4.0, September 2005
 - VIS 1.4.0 Corrections, Updated September 2005
- AMEX Card Simulator
 - American Express AEIPS v4.0
- CPA Card Simulator
 - Common Payment Application Specification, Version 1.0, December 2005
- Contactless Card Simulator VSDC/qVSDC/MSD
 - VISA Contactless Payment Specification, Version 2.0.2, July 2006

Other Card Simulators can be developed on request.

Product Family

For testing terminals

- Requires "INQ End-to-End Payment – Terminal Testing" configuration
- Requires a Micropross STAR 3150 hardware adapter
- Can be part of the Level 2 Terminal Test Suite

For testing host

- Requires "INQ End-to-End Payment – Host Testing" configuration

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Integri is a wholly owned, autonomous business unit of Clear2Pay, an international financial technology company focused on delivering globally applicable solutions for secure, timely electronic payments. Clear2Pay operates from 13 international offices and currently employs over 400 staff.

Integri headquarters

Leuvensesteenweg 325/3
B-1932 Zaventem
Belgium
P: +32 2 717 69 00
F: +32 2 717 69 67
E: info@integri.com
W: www.integri.com