Card Simulator

KaNest®-ICC

With KaNest®-ICC, Galitt provides a card simulator to check the compliance of card acceptance systems ("Level 2 and Level 3 testing") based on ISO 7816 (smart card) & ISO 14443 (contactless card) standards.

KaNest®-ICC and its Test Suites are used to debug, evaluate and/or validate the acceptance devices:

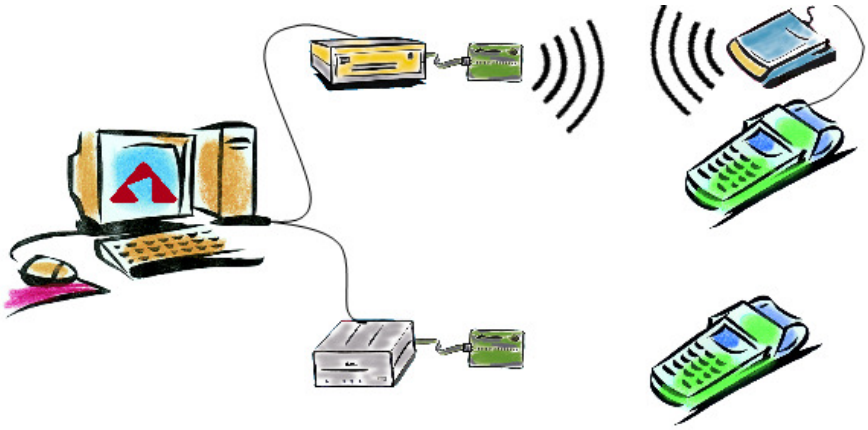
- POS terminal;
- ATMs;
- ...

based on card standards (EMV, Entry Point, *PayPass™*, payWave™, D-PAS, AEIPS, Expresspay…).

KaNest®-ICC gives the ability to perform End-to-End integration testing ("Level 3 testing") when combined with KaNest®, the Host Simulator from Galitt.

Key features

- Simulator of smart cards and contactless cards
- Full multi-application simulation
- Off-the-shelf recognized Test Suites
- Automatic mechanism for test selection
- Automated diagnoses
- Easy settings
- Flexible and fast analysis of test results
- Spy function
- Automation capabilities & remote control
- Option to be combined with a Host Simulator
- Easy to use in End-to-End integration testing



Galitt Advantage

KaNest®-ICC is recognized as the state-of-the-art simulator for interoperability testing:

- KaNest®-ICC EMV Level 2 Terminal Test Suites are qualified by EMVCo and used by EMVCo accredited laboratories for evaluating EMV compliant devices.
- Numerous KaNest®-ICC Test Suites have been "confirmed" or "qualified" by payment schemes (American Express, Discover, Diners, MasterCard, Visa, JCB, OSCar…) as "capable of supporting the Test Cases" they have defined.
- The Tester View allows test automation and time saving. It provides several results views ranging from an overall summary of the test campaign to an in-depth analysis of the transaction flow.
- Tests can be performed through a physical probe or through a virtual probe to ease debugging and regression testing; testing execution can be thus fully automated.

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CONTACT TEST SUITES

EMVCo

- EMV Level 2 **qualified**

American Express

- AEIPS **qualified**

DISCOVER

- DN E2E (D-PAS) **qualified**

Diners

- DCI E2E (D-PAS) **qualified**

MasterCard

- M-TIP
- M-TIP Field Interoperability
- M-TIP US Maestro

qualified - Interfaced with the TSE (KaNest®-L3)

Visa

- ADVT **confirmed**

INTERAC

- INTERAC for which KaSYS Canada, the Galitt Canadian partner, has been **approved by INTERAC** as a test tool vendor.

JCB

- TCI **confirmed**

OSCar

- OSCar POI **qualified Phase 1 & 2**

KaNest®-ICC

- KaNest®-ICC simulates nominal and unexpected behavior of contact and contactless cards for testing any card acceptance system and verifying the conformance to specifications.
- The simulator relies on the ICC-S module simulating ISO 7816 smart cards (T=0 or T=1 protocol) or ISO 14443 contactless cards (Type A or B).

AUTOMATION

Tests are automated through an easy-to-use interface ("Tester View") or performed in a step-by-step mode ("Engineering View").

All Test Suites include an automatic test selection as well as logging and reporting features.

CONTACTLESS TEST SUITES

EMVCo

- EMV Entry Point Level 2 **qualified**

American Express

- Expresspay **qualified**
- EMV Contactless Kernel 4 **development ongoing**

DISCOVER

- DN E2E (D-PAS) **qualified**
- Contactless D-PAS **qualification ongoing**

Diners

- DN E2E (D-PAS) **qualified**
- Contactless D-PAS **qualification ongoing**

MasterCard

- *PayPass™ v3.x (*EMV Contactless Kernel 2) **qualification ongoing**
- *PayPass™ M-TIP v3.x* Subset 6, 8 and US **qualified** - Interfaced with the TSE (KaNest®-L3)
- *PayPass™* M/Chip & *PayPass™* Mag-stripe

Visa

- payWave™ qVSDC & payWave™ MSD **confirmed**
- EMV Contactless Kernel 3 **confirmed**
- VCPS **confirmed**
- CDET **confirmed,** VpTT (Europe)
- qVSDC Device Module (US) **confirmed**

JCB

- TCI Contactless **confirmed**

OSCar

- OSCar POI **qualified Phase 1 & 2**

OPTIONS

- **Device simulation module**: **ICC-A**: reading and capture of physical cards.
- **Card Image Module**: **ICC-I**: creation of virtual test cards by directly keying card data or by capturing a physical card and then deriving it.
- **Repository Edition Module**: **ICC-E**: edition of rules and formats used to simulate card – terminal exchanges.
- **Remote Control Module**: **ICC-D**: API allowing any Windows™ application to drive remotely the simulator (test scripts and reports).
- **HP Quality Center Module**: Driving and update of the simulator by HP Quality Center software.

Technical specifications

Tested Functions

Application layer ("Level 2 & 3") for

- Contact and contactless acceptance devices
- Multi-applications

Probes

Simcos® 2 (Galitt)

- For contact only
- Supporting T=0 and T=1

NomadLAB (KEOLABS)

- For contact & contactless
- Supporting T=0 and T=1
- Supporting Type A and B

X-CORE T Series (SMARTWARE)

- For contact & contactless
- Supporting T=0 and T=1
- Supporting Type A and B

ContactLAB (KEOLABS)

- For contact Single Wire Protocol (SWP) only

Virtual TCP/IP probe

Repositories

- EMV
- VIS VSDC
- M/Chip
- AEIPS
- Expressway
- TCI
- D-PAS
- OSCar
- CB-EMV
- INTERAC
- payWave™ (VCPS)
- *PayPass™*

Hardware Configuration

Single PC (4GHz or above)

- Windows™ 7 SP1
- Windows™ 8

32 or 64 bit

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