

# INQ<sup>®</sup> End-to-End Payment Platform

## Host Testing

### Out of the box testing



Integri's INQ<sup>®</sup> End-to-End Payment Platform caters for all the different functional testing needs of a complete payment system. Running on top of INQ<sup>®</sup> – Integri's open tool – the INQ<sup>®</sup> End-to-End Payment Platform includes simulators for each of the different units in a payment system. This brochure covers the system configurations and tools available from Integri for host testing.

## Host Test Environment

The functional specifications of the interface between terminal, acquirer, network and issuer cover many aspects:

- The format of the different messages
- The transaction behavior, preferably represented in a state transition diagram
- The processing triggered by the transaction, such as transaction authorization rules, resulting database updates, etc.

To ensure high quality, Integri's INQ® End-to-End Payment Platform helps you check that these functional specifications are correctly implemented. Different configurations can be set up within the INQ® End-to-End Payment Platform to test these functional aspects. The diagrams below show some of the possible Acquirer, Network and Issuer Host testing configurations, with the live unit(s) under test shown in red:

### Acquirer test environment – Network and Issuer simulation



In this configuration the Acquirer under test is connected to the End-to-End Payment Platform which simulates all possible issuer responses to the requests, including incorrect ones.

### Acquirer test environment – End-to-End testing



This configuration extends the functionality of the previous one and can simulate messages coming from a payment terminal.

### Issuer test environment



In this particular configuration, Issuer testing is carried out using card data retrieved from either a card model (simulation) or a physical smartcard (connected via a card reader).

These are just a selection of the many different possible configurations. The End-to-End platform also can be easily configured for self testing or prototyping, using simulated or live components, and with connected hardware boxes. In all configurations, both interactive and automated test modes are possible.

## Benefits

- Helps ensure your functional implementation is according to specifications
- Increases quality, robustness and service level of your system
- Reduces test time and facilitates non-regression testing due to the high level of automation
- Shortens development time by offering interactive debugging facilities combined with comprehensive logging and error analysis
- Increases profitability and cuts time-to-market
- Off-the-Shelf Test Suites available for most 'de facto' standards
- Can be easily extended for stress and load testing with the INQ Stress Platform
- Based on INQ®, it can become part of an overall test architecture which also includes card, terminal and level 1 testing

## Interactive testing

In interactive mode, the user selects and edits a message, calculates and modifies the different fields and sends it to the unit under test. Messages can be saved in a template group for further re-use.

Results can be reviewed easily; validations and errors are represented in an easy to understand way.

## Automated testing

To repeat tests, test scripts can be written and saved in the test script library. All the necessary support is available to link tests to the functional specifications and make comprehensive reports. Automated test scripts can cover all possible valid and invalid requests or responses including:

- Testing on field level: checks syntax and semantics
- Testing on message level: checks for mandatory and prohibited fields
- Testing transaction flow: checks both valid and invalid paths
- Cryptography Testing: checks if the cryptography is correctly verified at field and message level

## Model manager

Different models of the simulated units (card, terminal and host) can be stored and accessed easily.

A model manager helps the user select the appropriate template model or modify a model for a particular test case.

## Off-the-Shelf Test Suites

A number of Off-the-Shelf Test Suites are available in open source, covering the major international payment system standards. Integri can also develop Tailor Made Test Suites for customer-specific systems or provide extensive support to help customers develop their own suites. Please ask your Integri representative for more details.

**Out of the box  
testing**



## Testing and Test Tools... out of the box testing

Specializing in simple-to-use test tools and services for payment, smartcard and mobile applications, Integri offers an approach that's 'As easy as it looks'. It's the key to achieving overall project quality on schedule and within budget. The Integri tools are based on the INQ® Open Platform. INQ® can easily be customized or adapted to your specific needs.

Integri offers also a number of dedicated platforms for specific applications:

### **INQ® End-to-End Payment Platform**

To test the different units of a payment system (card, terminal, acquirer, network and issuer).

### **INQ® End-to-End Mobile Platform**

To test handsets, SIM cards and mobile applications in the 3GPP world.

### **INQ® Stress Platform**

To test host behavior under heavy stress and load conditions.

### **INQ® Level 1 Platform**

To test the level 1 protocols between contact and contactless smartcard and terminal.

More information on [www.integri.com](http://www.integri.com) or mail us [info@integri.com](mailto:info@integri.com)



a Clear2Pay company

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](mailto:info@integri.com)  
W: [www.integri.com](http://www.integri.com)