

INTEGRI NEWS

CONTENT • End-to-end testing to IFSF standard [page 2] • New EMV Smartcard Explorer tool [page 2]
• Visa ADVT scripts for INQ platform [page 3] • EPCI chooses experience [page 3] • Partnership program [page 4] • Event calendar [page 4]



Volume 2 - Issue 1 - February 2005

Newsflash

+++ Integri has developed a VISA Base I simulator on its INQ test platform +++

+++ KBC and Fortis Bank (Belgium) have acquired Integri's Stress Testing tool +++

+++ Setib (France) has decided to purchase INQ and our INQMonétique test platform instead of migrating their old testing platform +++

+++ Integri has developed the EPCI BELGAP and Interpay CTAP test environment +++

Looking forward to 2005

Last year was a very good year for Integri with a revenue growth of 25%. Our team has significantly grown over the year and we are ready to face the challenges of 2005. We hope to continue to grow as fast in 2005, partly by building our business through partnerships. We wish all our partners and customers success in 2005.

In 2004, we enlarged our product portfolio for the payment transaction market with products such as our Stress Testing tools, new ISO8583 protocol simulators and EMV card simulators. In 2005, our major objective remains to offer our clients an open and modular platform as well as off-the shelf solutions to tackle their end-to-end testing requirements.

With a looming deadline of December 2005, the liability shift related to EMV migration is pushing processors to speed the deployment of card and terminals and upgrade their host systems. Testing with our INQ platform can be an important factor in helping them beat this deadline.

PayPass, MasterCard's standard for contactless payment, seems to be the 2005 buzzword. Integri is ready to support this emerging market and has already developed test tools to facilitate the roll-out of contactless cards and terminals. We are currently the sole supplier of a L1 contactless device test tool.

In the mobile telecom market, the implementation of the 3G (UMTS) standard is on the rise. Integri has anticipated this evolution and is ready with solutions for testing 3G cards and handsets. In addition, becoming a member of the GCF will give us the opportunity to develop a stronger relationship with telecom labs and operators, as well as handset manufacturers.

In this issue, we have articles on our new IFSF compliance testing and card explorer tools and the validation of our Visa Acquirer Device Validation Tool test scripts. We also take a look at our certification services with five years of successful cooperation with EPCI and have a short article on our partner program. Finally, we have included a list of the key events that Integri will be attending this year.

Jan De Meester
Managing Director

Frédéric Klopfert
Managing Director



End-to-end testing to IFSF standard

Integri's off-the-shelf POS2FEP and Host2Host tools enable complete end-to-end testing to the IFSF standard.

The International Forecourt Standards Forum (IFSF) is a collaboration between major international oil companies designed to harmonize equipment interconnectivity and communication standards in the petroleum retail business. As part of this drive, it has developed a common specification for card payment transactions.

The specification covers transaction communication between the payment terminal at the forecourt and a Front-End Processor (FEP) at a national processing centre; and between the FEPs at the processing centre and a 3rd party host processor. The 3rd party host can either belong to an issuing bank, another acquirer organization or another petrol company (allowing loyalty cards from one company to be used at other petrol stations).

Integri's INQ is a versatile open platform oriented towards testing smartcards, host interfaces and terminals. While Integri's clients can use this open platform to build their own test solutions, Integri has also made a number of off-the-shelf solutions available. In this context, Integri developed the IFSF solution for testing test the compliance of both the POS to FEP and FEP to Host interfaces.

The IFSF solution contains a complete set of tools for testing and/or simulating the POS terminal, the FEP and the third-party host. It includes support for both magnetic and EMV cards, and can even be used in an end-to-end mode, whereby a test smartcard is tested over the tool against a live issuer.

One of the world's largest oil companies is the first customer to use the IFSF tool. It chose INQ because Integri could deliver a ready-made solution that required only slight adaptation of the tools to meet its specific needs. Furthermore, the INQ tools offer EMV-compliance testing – something the company could not do with its existing tools. Also, due to the versatile and open nature of INQ, it has the possibility to extend the tool with additional test scripts.

This first customer has already rolled out INQ at five locations including its FEP processing centres and to key technology providers. It will deploy INQ at a number of additional locations over the course of this year.

The INQ IFSF test tools are the ideal solution for oil companies, technology providers and equipment manufacturers, as well as acquirers and issuers, wishing to pre-certify their forecourt payment systems.

New EMV Smartcard Explorer tool

The EMV Smartcard Explorer tool reads any EMV chipcard, displays its main data elements and can perform a range of cryptographic and consistency checks.

Running on Integri's INQ platform, the Smartcard Explorer provides users with an easy way to check information on chip cards. The tool's simple interface allows the user to view information on the applications stored on the card, as well as performing a number of cryptographic and data consistency checks.

Initially available for EMV smartcards, SIM and USIM versions will be released later this year. Jan de Meester, "The tool was demonstrated at Cartes in November last year and received a lot of interest from visitors. With forthcoming options for SIM and USIM, and possible extensions for issuer checks and user-defined rules, Smartcard Explorer is a highly effective addition to the INQ platform."

When a card is placed in the reader, Smartcard Explorer determines what applications are present. An application can either be selected from the list or by entering its Application ID (AID). Smartcard Explorer then reads the data elements related to the selected application and

formats them according to the EMV specification and presents them in an easy-to-read view panel. It also identifies any missing or incorrectly formatted data and can perform data authentication such as SDA, DDA and CDA, as well as PIN verification, if supported by the card.

Targeted at customers such as banks, issuers and card personalization companies who only need to quickly check data on a card, Smartcard Explorer is also of interest to card manufacturers.

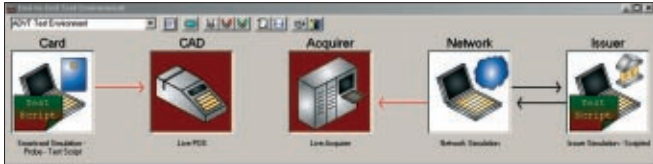
The screenshot shows the EMV Card Explorer software interface. It is a Windows-style application window with a title bar that reads "EMV Card Explorer". The interface is divided into several sections:

- User Defined:** This section contains input fields for "Application" (with the value "A0000000041010"), "PIN", "PDOL" (with the value "9F24029F15029F3501"), and a "Clear" field (with the value "9000000000"). There are "GO!" and "Next >>" buttons to the right.
- PSE:** This section shows "No PSE found" and a "Directory:" field.
- Applications:** This section shows "Applications found on the card:" and a list containing "A0000000041010".
- Application:** This section shows details for the selected application: "Selected Application: A0000000041010", "Application Label: MASTERCARD", "Application Priority Indicator: 01", "Language Preference: R", and "PDOL: 9F24029F15029F3501". It also indicates "Application is not blocked" and "Does not require cardholder confirmation".

Visa ADVT scripts for INQ platform

Official validation of the Visa Acquirer Device Validation Tool test scripts extends the capabilities of Integri's EMV level 1 and EMV Level 2 test libraries.

Integri has received official validation from Visa for its suite of scripts for testing the compliance of acquirer and merchant terminals with Visa's EMV terminal requirements. The test scripts run on Integri's INQ platform and fully meet the requirements of the recently released Visa Acquirer Device Validation Tool (ADVT) Version 3.0.



For ADVT, the units under test are the POS and Acquirer.

Pekka Mattila, Head of Chip Infrastructure, Visa Europe stated, "This means that Acquirers have more choice to comply with Visa's ADVT mandate. Having an efficient terminal integration process allows Acquirers to deploy chip devices with great confidence, and will accelerate chip roll-out in our region."

Jan De Meester, Managing Director, Integri said, "The addition of the Visa ADVT test scripts to our existing EMV terminal testing tool proves once again the power of the open and versatile INQ platform. Using this ADTV script module, Visa's members as well as 3rd party terminal vendors can speed and automate the certification of their terminals."

In addition to running the 47 test scripts to test terminals for compliance with ADVT, additional scripts can easily be created on the INQ platform to perform additional tests. Integri can also provide test libraries for testing a terminal's compliance with other EMV card products. In addition to terminal testing, the highly flexible INQ platform can be easily configured to perform compliance testing at any point in a payment system from the smart card to the issuer host.

EPCI chooses experience

Since it began operating, Belgium's Electronic Payment Certification Institute has subcontracted functional certification of terminals to Integri.

In 1998, the Belgian banks decided to open the market for terminals accepting domestic debit cards (Bancontact/MisterCash) and e-purse cards (Proton). Following on from this decision, the Electronic Payment Certification Institute (EPCI, www.epci.be) was established in 1998 by the banks to manage the certification process. The Card Scheme Manager for these schemes (Banksys) delivered specifications and the institute had a functional certification engine developed by Integri.

Since 2001, the certification management process has been extended to include credit card acquirers (Bank Card Company, Citibank, Europabank, American Express and later JCB International). These acquirers first consolidated the specifications for mag-stripe terminals and since 2002, have also included the EMV specifications. For these specifications, Integri also developed a functional certification platform.

EPCI has outsourced the functional certification to Integri since the beginning. Annually, the certification process is run for about five new terminal types. Next to new certifications, Integri also handles regression testing and re-certification of existing solutions that have been upgraded or amended – a common necessity for terminals that support multiple applications, operating modes and (telecom)



connection techniques. Integri is also responsible for all the planning, testing and reporting for EPCI.

As Hugo Gladines from EPCI puts it, "Integri developed the tools and has over ten years experience with testing payment systems, so there was no-one better suited to do the testing."

The testing process uses Integri's INQ platform, which acts as test manager and encompasses the simulations of the card, the security module and the acquiring host protocol. EPCI defines a set of automated tests to evaluate if the terminal satisfies the corresponding specification. The tests cover the various elements of the system, including its interfaces to the merchant and the customer. On completion of the tests, EPCI issues the certificate based on a test report from Integri. Terminal vendors can also use the INQ test tools in their own environment for their own Quality Assurance before the official certification process.

Partnership program

One of Integri's key objectives for 2005 is to grow business via its partnership program. It already has solid partnerships with a number of companies for the distribution of its off-the-shelf solution.

Integri already has distribution agreements with a number of companies in Asia for the promotion of its EMV and GSM/3G card and terminal test tools.

In 2005, Integri will concentrate its efforts on extending its partnerships with service companies. This service partnership allows the Integri partner to offer proprietary test solutions and test services using the open and modular INQ test platform. The program includes hands-on training, coaching and support by Integri. If you are interested in becoming an Integri partner, please contact us at info@integri.com

The following companies represent Integri:

- Flash Technology Pte Ltd, in Singapore and Malaysia
 - website: www.flashtech.com.sg
 - contact: wkloh@flashtech.com.sg
- Flash Technology (Hong Kong) Ltd, with representations in Shanghai and Beijing in mainland China
 - website: www.flashtech.com.cn
 - contact: cross@flashtech.com.sg
- Poweitek Technology Inc, in Taiwan
 - website: www.poweitek.com.tw
- Altech ADS Co. Ltd, in Japan
 - website: www.altech.co.jp
 - contact: tanizaki@altech.co.jp
- Cetecom Korea, in South Korea
 - website: www.cetecom.co.kr
 - contact: steve.han@cetecom.co.kr

Event calendar

During 2005, you can meet with us and some of our partners at the following events:

Event	Date	Location	Partners
IC Card World	March 1-4	Tokyo, Japan	Altech
ETA	March 15-17	Las Vegas, USA	
Cartes Korea	March 23-25	Seoul, Korea	Cetecom Korea
CTST	April 11-14	Las Vegas, USA	
SIM2005	April 19-20	Amsterdam, Netherlands	
SC & CL & Payment Terminals PTE	April 19-21	Beijing, China	Flash Technology
CardEx Asia	May 17-19	Kuala Lumpur, Malaysia	
SCC	May 25-27	Beijing, China	Flash Technology
5th CardTech Korea	July 19-21	Seoul, Korea	Cetecom Korea
SmartCards	Sept. 13-15	New Delhi, India	
ID Expo	Sept. 15-17	Tokyo, Japan	Altech
CARTES	Nov 15-17	Paris, France	

In addition to these events, Integri will also be participating in the MasterCard and VISA vendor forums.

Integri's busy stand at Cartes 2004



If you have any comments or suggestions on Integri News, or want to know more about our products and services, contact us at: Tel.: +32-2-717.69.00, Fax: +32-2-717.69.67, E-mail: info@integri.com Leuvensesteenweg 325/3 Chssée de Louvain, B-1932 Zaventem, Belgium

