

For more than 15 years, B+S Card Service is transacting and processing payments for credit and debit cards. The company is also a leading provider of payment terminals for cash points, active in e-commerce and mobile payment markets and offers a complete consulting service package across the European market.

The company is headquartered in Germany and employs 480 people.



Testing terminals: a time-consuming and costly process

B+S Card Service supports more than 100.000 terminals and offers both fixed and mobile POS-terminals. With an own network operation, the company is one of the official ZKA-certified (ZKA = Central Credit Committee) electronic cash network operators.

Testing the functioning and compliance to industry standards of these terminals is a complex yet essential matter. Moreover, doing this manually is a time-consuming and thus expensive activity: inserting cards, entering PIN codes, validating displays, etc. Automating this manual verification activity reduces B+S Card Service's test runs from days to hours, allowing them to make enormous savings both in time and resources.

The Integri experience

When B+S Card Service was looking for a solution to streamline their intensive testing process, Integri proved the perfect partner to develop a custom-made automated test solution. Integri has more than sixteen years of experience in the payment industry and specializes in testing, simulating and prototyping. Major companies around the world bank on INQ® technology. This INQ® open test framework has no hard-coded behavior making it easy to add tests or update tools to support new or changed specifications. A future-proof, modular technology that proved an important feature for B+S Card service.

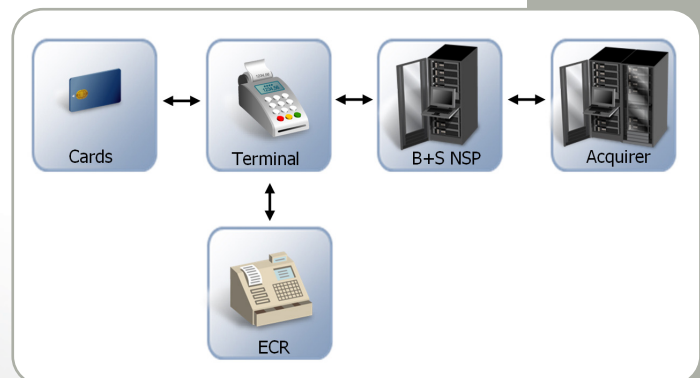
Integri serves companies in more than 35 countries and our solutions are used by leading companies such as MasterCard, JCB, Verifone, ATOS Origin, Visa, Gemalto and many more.

The B+S Live environment

The B+S Card Service live environment is composed of the following elements:

The different components of the environment:

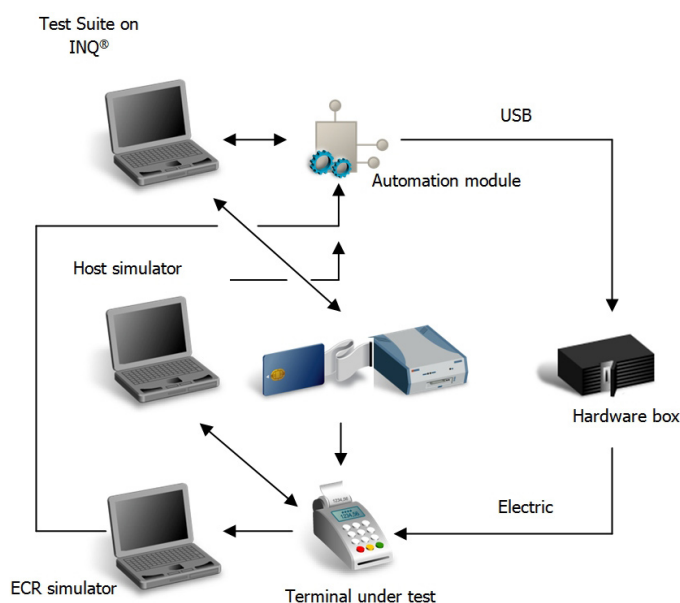
- Cards: magnetic stripe or EMV cards
- Terminal: payment device on which a transaction is initiated
- ECR: electronic cash register connected to the payment device
- B+S: manages the terminal park and routes the payment transactions to the card acquiring companies.
- Acquirer: manages the connection with B+S and routes the authorization requests to the issuer



The connections between the cards and the terminal can be handled via different interfaces: magnetic stripe, EMV or EC-Cash (the German debit card application). Between the terminals and NSP and ECR, all communication is handled via ZVT, the domestic ISO8583-based protocol.

The Integri solution for automation convenience

The close collaboration resulted in a custom-made test environment based on specific requirements. The core of this particular test set-up is Integri's INQ® Terminal Test Suite enhanced with a tailor-made automation module. This automation module launches the test tool, which contains the different test cases, and sends the necessary instructions to the terminal under test: push button, insert card, enter PIN, remove card etc. The PC-based test tool is connected via USB to a hardware box that communicates with the payment device by sending electrical signals. The terminal, on its turn, will send signals to an electronic cash register (ECR) simulator, whose output is captured and verified by the tool's automation module. At the end of the test session, the B+S engineers have the possibility to do a detailed analysis of the test results and generate a test report ready for immediate interpretation.



“Throughout the collaboration with Integri we have experienced their strong commitment to deliver future-proof solutions that create value and enable trusted services.”

Hans-Jürgen Bornkast, Quality Manager at



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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.

Out of the box testing

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