

GALITT article

The growing need for test automation in Japan

Although it is true in many industries, electronic banking systems are especially subjected to an always growing complexity. A large part of the systems added complexity doesn't only lie in the large number of flourishing services, but also in technological evolutions and in particular the today widely spread usage of technologically advanced components such as smartcards. Indeed, generalizing the usage of smartcards in the payment industry became a necessity in particular for responding to the growing concerns for security. As a result, more complex systems mean an exponentially increasing testing coverage for allowing checking on more and more potentially faulty combinations.

Additionally, today's financial business needs often require interoperability on a global scale. And any failure of this targeted interoperability creates direct customer dissatisfaction and put customer retention at risk. In order to maintain quality at an acceptable level, advanced certification schemes have been set up, which require an always growing number of tests on systems before they are allowed to be put on the market.

From a manufacturer perspective, and although extensive testing tends to improve the global quality of their products, the set-backs of schemes requirements are multiple and one of the most important question faced is: how to improve testing efficiency while reducing testing costs?

Addressing this question brings the key to limiting the testing impact and burden on manufacturers by allowing them to identify faults earlier, rely more on testing results, better allocate testing budgets, better control products time to market and thus keep better control over the overall cost of certification.

One of Japanese culture fundamental is security, either in personal life or business. In Japan, security threats are dealt with extremely seriously in all industrial areas, such as food, medical equipment, automotive, energy... and of course in electronic payment. Moreover, quality has always been a strong focus in Japanese business practices and Japanese people rather prefer to check things multiple times for reducing the chance of errors.

Therefore, hunting for bugs and trying to solve problems at an early stage of development does not only technically make sense but is also part of the usual practices. Japanese electronic payment manufacturers have thus to face a major challenge while having to test extensively in a technological market known as highly dynamic and driven by quick changing fashions.

In that context, regression testing oriented tools that make powerful testing quicker and simpler are warmly welcome in Japan. Having taken those pre-requisites into account and believing in a great compatibility of its tools and way of thinking with the Japanese context, GALITT signed a distribution agreement with TÜV SÜD Japan that proved to be very successful over the past year.

In the frame of projects such as EMV Level 2 certifications, manufacturers and laboratories testing needs have evolved following a similar trend. It is, for both, crucial to keep workload unchanged (or even reduce it) despite of a drastically increased number of tests. To achieve such a challenge, they both need powerful tools that can be used by either advanced technical experts or by testers who have only little experience of the tested object. Also, the test tools must be able to provide a testing environment that eases the tester experience and establish verdicts in the most automated and reliable way. For manufacturers, faster and more reliable testing also means the ability to keep the time to market as short as possible and keep certification costs to the minimum.

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In the development phase, the necessity to detect faults early and limit impacts of any change on more and more complex environments are setting the scenery for the regression testing challenge. The most efficient way for addressing this challenge is by using “intrusive” testing which proposes to run the applications under tests into a fully simulated environment, thereby providing full automation and unmanned testing. It is therefore possible with such an environment to run full test campaigns everyday and overnight! While “intrusive” regression testing drastically increases self-confidence in the quality of developments, it also guarantees better results during the official “non-intrusive” certification testing phase.

GALITT’s tools success factors in Japan are linked to a combination of pre-cited factors as well as a comprehensive offer built around an integrated environment already well improved and recognized throughout the rest of the world. Key factors of this environment consist in the combination of a simple interface for quick testing, an advanced yet friendly interface for efficient debugging and above all the capacity to integrate different off-the-shelf packages one with another in order to build seamless ready-to-use test environments. The involvement of TÜV SÜD Japan makes this integration even easier by providing the local support to speed test implementations.

For example, while testing acceptance devices for EMV Level 2 type approval, an issuer host must be put in place and respond with data specific to the test under execution. An integrated testing environment consists here in using a smart card simulator together with a host simulator capable of automatically responding to the acceptance device automatically with the appropriate data. Because both simulators are able to synchronize with each other and act as one, human operation is limited and efficiency increased.

Another good example comes from the need of integrating electronic payment facility on a large number of very diverse devices. Japanese society being very service oriented and quality demanding, special care shall be taken for integration testing also called end-to-end testing. Here also the use of an integrated test environment helps saving a lot of time by having the different simulated actors on the transaction chain talking to each other and in this way avoiding the burden of manual operations.

GALITT and TÜV SÜD Japan are seeing great perspectives in continuing to help the Japanese payment industry actors for increasing testing efficiency through automation. Whether in the domain of smartcard related devices, but also in the domain of electronic transactions networks, GALITT is proud to bring automation to its best for the benefit of all.

Klaus Kaehler, Manager of Smart Card Systems, declared: “TÜV SÜD Japan Ltd., with its long experience as a recognized laboratory, strongly believes in the potential of GALITT tools to provide the Japanese payment systems industry with greater efficiency for their development and certification process, thus enabling quicker time to market, improve product quality and confidence.”

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