CASE STUDY

BankservAfrica Improves Testing Efficiency with Eggplant Test Automation

KEYSIGHT

Overview

BankservAfrica is Africa's leading automated clearing house (ACH) – the transactional link between many of its major payment institutions. With two replicating processing sites in Johannesburg, its advanced payment systems allow for seamless interbank switching, clearing and settlement. BankservAfrica's extensive processing infrastructure, together with economies of scale, means they can provide these key payment systems at maximum cost-efficiency and minimum complexity.

Testing the Debicheck AC batch system was particularly challenging and BankservAfrica partnered up with IT Ecology, an IT consulting company focused on delivering value to customers through services and solutions that help them improve the quality of their applications functionality, performance and security throughout the Software Development Life Cycle (SDLC).

Challenges

A DebiCheck debit order is a more secure type of debit order that requires confirmation from your bank when entering into a contract with a service or credit provider, reducing the risk of incorrect or fraudulent debit orders. Debicheck collections are only processed if the incoming debit order request from each creditor's bank matches a subsequent response from the respective debtor's bank for each transaction. The challenge therefore was the creation of XML batch files into the BankservAfrica DebiCheck system from creditor banks as well as the return files from the debtor banks in a timely and consistent manner.

Time-consuming test data creation and limited test coverage

Test data was a critical input to the testing effort, and it was near impossible to create at the transaction volumes and permutations typically contained in the files being received by the system in both directions.

BankservAfrica would use an existing small batch file with a minimal number of transactions to a single debtor's bank and modify said file with new data and IDs. This manual testing approach simply did not allow for extended test coverage across all banking clients, given that both the debit order requests and matching mandates with valid transactional IDs and data needed to be created.

Maintaining consistency and mitigating errors

Repetitive manual tasks can decrease the level of consistency and coverage in any QA operation. It was no different in BankservAfrica's case: whenever the team at BankservAfrica needed to create a test file to emulate debit order transactions they would have to do this manually, at smaller scale and at greater risk of introducing errors.

The Eggplant Experience

The shortage of qualified QA Engineers has impacted many businesses' ability to grow and scale their testing teams, which is further exacerbated by the skills drain in south Africa. Test automation has become an effective solution to help companies expand without losing coverage or quality with its testing operations. Additionally, using Eggplant's Test Automation solution for test data file creation has brought immense value to BankservAfrica.

We asked Dirk Loosen, Director at IT Ecology, about the above mentioned challenges that BankservAfrica faced and what approach they took to solve them.

Automated test data creation accelerates testing

Having analysed the BankservAfrica Debicheck testing environment and recognizing that the manual creation of large XML files with many transactions to multiple debtor's banks was just not feasible, IT Ecology developed an appropriate solution to address the challenges facing BankservAfrica.

"By using Eggplant test automation, we were able to automate the creation of the complex file structures required as input and response validation. Having never previously created a test data file set of significant transaction volume incorporating multiple interbank transactions due to the insurmountable nature of the task, such files are now created in a matter of a couple of minutes." — Dirk Loosen, MD, IT Ecology

Once the test data creation process was automated, Eggplant was further utilised to automate the actual testing of the Debicheck system by comparing generated output files with processed files from Debicheck.

Flexibility in test data creation increased coverage and consistency

One of the key elements of the BankservAfrica use case was the utilisation of test parameters in Eggplant, which are configurable input values used during file creation such as number of destination banks, number of transactions to destination banks, dates and parameters unique to each bank. This significantly increased test coverage, from testing a single debtor's bank at a time to being able to test the system for all debtor banks simultaneously.

"Once our team at IT Ecology started using Eggplant to create test data files, we also noticed a reduction of file errors from an average of 20% to zero during testing at BankservAfrica. Consequently, it also led to an increase in efficiency, since it would take up to 30 minutes to investigate each error."

Enabling true end to end testing

An additional benefit that is being realised as a result of using Eggplant Test Automation is that today BankservAfrica can provide test data sets to all participating banks according to the banks' specific data requirement, which is invaluable when onboarding a new bank. Before Eggplant, BankservAfrica could not provide such files for testing to the banks because BankservAfrica could not share one banks details with another bank due to financial industry regulations.

Key outcomes

With the help of Keysight's powerful Eggplant Test Automation Software and IT Ecology's expertise, BankservAfrica was able to automate the creation of large files with high volumes of transaction data, in a consistent and significantly faster and far less error prone manner.

Using Eggplant and IT Ecology skills to develop this test data generation capability, BankservAfrica was able to:

- Create large volume test files automatically and at speed.
- Increase test coverage and end-to-end testing capability.
- Eliminate human error when creating test files and reduce time spent investigating errors.
- Improve quality and increase consistency.
- Reduce a new bank's onboarding time.

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