

Danske Bank

As Danske Bank's application landscape was growing in sophistication and complexity, it needed to enhance its test automation capabilities. Micro Focus® Silk Test™ proved to be the natural choice thanks to the strong technical advantages provided by its Open Agent Architecture.



Overview

Danske Bank Group is the largest bank in Denmark and a leading player in the Northern European financial markets. More than five million retail customers use its retail banking operations in Denmark, Finland, Sweden, Norway, the Baltics, as well as Northern Ireland and the Republic of Ireland and other branches and subsidiaries. Danske Bank also has a significant share of corporate and institutional markets.

Challenge

Despite operating under different names in the different countries, all units work on the same organizational and IT platforms. The bank is a recognized leader in digital functionality for private and corporate customers with a strong eBanking and mobile banking presence—servicing over 15 million logons to its private eBank each month.

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DAG ANDRÉ NILSEN

Test Automation Specialist
Danske Bank

Offering a reliable, secure and high-quality service is vital to the bank's operations, and Danske Bank puts its testing activities center stage. So when Test Automation Specialist Dag André Nilsen made the case to move to Micro Focus Silk4J, the company listened. It was not such a big jump as the company had based its automated testing activities on Silk Test for a number of years.

Solution

Silk Test from Micro Focus had met Danske Bank's testing demands reliably since Nilsen introduced it when he joined the bank as a developer specializing in test automation. Danske Bank was already using a testing solution when Nilsen was hired, which he was keen to change and was able to convince his management of the need for an alternative toolset. “I can't guarantee success without the right tools for the job,” Nilsen explains. “Fortunately, Danske Bank was open to allowing me to use the best tools.” After evaluating the products on the market, he recommended Silk Test. With Silk Test on board, Nilsen set about building a large and sophisticated test framework for the bank. Danske Bank used Agile development processes for its major projects—including its eBank. Each 14-day iteration comprised specification, design, development and test. So the focus on testing was high. “One of the benefits of using Silk Test,” according to Nilsen, “was that it offered options to get the programmers interested in testing as well.”

At a Glance

■ Industry

Financial Services

■ Location

Denmark

■ Challenge

The bank must offer reliable, secure and high-quality services.

■ Solution

Use Silk4J to test all applications: mobile, desktop or web.

■ Results

- + Introduced a new testing framework with Silk4J that integrates with Java
- + Introduced the ability to perform 500 automated tests daily

Silk Test was used to support the bank's testing automation framework for a number of years very effectively using its established classic technology stack. As more applications were being developed in Java and the technical sophistication and complexity of the applications evolved, Nilsen realized that taking advantage of the enhanced test automation capabilities that the Silk Test Open Agent Architecture provided would be a natural step.

With scripts based on Open Agent, Nilsen saw that tests could run much faster than previously and be much more stable than they were in the Classic Agent. Because the framework could also be simplified, a much lower percentage of reruns would be required—returning significant time savings on maintenance.

He also saw the advantages that Java offered as the scripting language of choice for developing tests with Silk Test going forward. He suggested deleting the old framework and starting over again with Silk4J. A seamless plug-in to Eclipse, Silk4J is tailored for technically knowledgeable testers and developers who use Java and Eclipse and is optimized for use by people with programming skills in these environments. For Nilsen, a major advantage of adopting Silk4J lay in the cost benefits; it integrates with Eclipse and Java—both of which are free.

Despite the initial cost involved in building a new test framework from scratch, Nilsen convinced the bank of the longer term benefits of such a move, particularly as one of the core applications to be tested would be the eBank application. The framework is currently being used to test three major applications: the eBank, testing APIs for mobile banking—on iPhone and Android—and a .NET application used within the bank.

The huge test framework was coded in Java by Nilsen and his colleague and comprises 500 test cases across seven brands, which are determined by country, language and two different technologies: Java and .NET. Implementing Silk4J has returned significant cost and time savings for Danske Bank. Because the framework is packed down into one very small Java file, it is very easy to execute a test from a batch file.

Results

Danske Bank's eBank is a mission-critical application and undergoes rigorous testing each day—a key Agile development feature. A single configuration file is used to function test eBank each day on a virtual machine. As Nilsen explains, "The entire test code is in Silk4J and the test process is fully automated. The test cases are executed at 5:45 every morning and the results are on my desktop when I come into work each morning." The 500 test cases are run across the

seven brands in parallel threads of four to save time on a virtual machine. "The test environment is virtual," says Nilsen, "and required less hardware. Because the framework tests four brands at a time in parallel, all 500 test cases run across all seven brands in under an hour."

If a function fails, Nilsen can immediately see which brand is affected and can run the test case again against that brand, rather than across the whole framework. Additionally, the tests are coded to include testing the test code. So the Silk4J log shows whether a failure is caused by the application code or if the test has failed. This process, which takes seconds, saves hours trying to locate the point of failure. When Silk4J detects that something is starting to fail, it takes a screenshot—a feature that Nilsen considers valuable. "This gives us important additional information as, alongside the log, we get a visual record of how and why an application has crashed. This is very easy to implement and tremendously powerful," Nilsen says.

The benefits of using Silk4J are felt across the enterprise. The developer environment benefits from bugs being identified early, the system test environment benefits as there are fewer bugs to find and, as a result, the production environment benefits from more robust products. As Nilsen says, "Silk4J is a really core part of

our testing framework, which is not stand-alone but is an important part of our entire quality process. It delivers confirmation and has a great effect on developers."

Alongside the cost and speed advantages, Nilsen values the focus that adopting Silk4J

as part of the agile methodology has placed on testing and quality. "To be agile," he says, "you must have some sort of automation, otherwise it's not feasible. By running the tests every day, we're putting much greater emphasis on quality and testing right across the bank." As they are testing a critical path, if a bug is found, it will be

fixed very quickly. The bank's developers trust that the framework will identify any bugs and therefore, as Nilsen says, "it acts as a safety net, increasing developer confidence in their ability to innovate further."

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