TRICENTIS

Global telecom service provider achieves quality@speed with test automation and risk coverage optimization

The Challenge

One of the world's leading mobile telecommunications companies was recently tasked with creating new business functionality: a way to let prepay customers recharge their accounts with a new "virtual bucket" payment type. This business-critical functionality involved numerous systems, including middleware, Siebel CRM, and a payment gateway system. It also integrated into downstream payment systems.

The company recognized that extremely rigorous testing was needed due to the project's 1) expected contribution to revenue and 2) technical complexity. They were already familiar with the power of Tricentis Tosca's Model-Based Test Automation (based on its successes in related projects), and they asked Tricentis to help them achieve the most powerful test automation as efficiently as possible. Efficiency was critical because the project had a delayed start, but a fixed (and aggressive) deadline.

Working with Tricentis, they were able to achieve their goal of 100% coverage—while increasing automation to 85%. This was accomplished with 33% less effort than their previous manual testing process would have required.

Testing Objectives

The client's specific testing objectives, in order of priority, were:

• Provide faster feedback to the developers: This was especially critical because the project started late. The original timeline was already aggressive; the late start meant that they had to catch up fast and achieve remarkable velocity throughout the project.
• Reduce costs and maintenance: They recognized that test automation was required to prevent high-risk check-ins from progressing through the automated delivery pipeline, but limited budget and resources were available to achieve the required automation.
• Ensure system quality: Since the implementation impacted so many disparate and specialized systems, there was a high risk of defects being introduced. To mitigate this risk, they wanted a structured, methodical approach to achieving 100% coverage.

Testing Tool Requirements

The client selected Tricentis Tosca to achieve their objectives because it could help them:

• Test end-to-end transactions that span multiple technologies: The project involved transactions that touched endpoints across HTML front-ends, CRM, Billing & Payment systems, and numerous back-end web services. They found that Tricentis was uniquely poised to test all of these technologies in a single test.
• Optimize risk coverage: Tricentis Risk Coverage Optimizer could help the team monitor and improve requirement coverage, guiding them to their goal of 100% coverage.
• Leverage their current test management tool: The client wanted to continue using HPE / Micro Focus Quality Center for test management. Tricentis is designed to seamless integrate with (and extend) QC—ensuring that a new approach to test automation does not disrupt existing test management and reporting processes.
Implement automation within a short timeline: Given the delayed project start, the client needed a simple, fast way to establish test automation. There simply wasn't enough time to build a custom framework and adopt automation approaches that had steep learning curves.

The Solution –
Tricentis Tosca for End-to-End Test Automation with 100% Coverage

1. Apply Risk Coverage Optimizer

Result: Coverage increased to 100%—without increasing the number of test cases. Tricentis Tosca's Test Case Design (TCD) uses Risk Coverage Optimizer technology, which helps users determine the minimum number of test cases needed to provide the maximum risk coverage. This ensures that there are no redundancies in the test portfolio and that the correct tests are being executed. Using TCD, the client identified key areas that were not previously covered. This ensured 100% requirement coverage without requiring an increase in the number of test cases. The client is implementing TCD across all projects to meet their coverage targets and keep their test case portfolios redundancy-free.

2. Implement Model-Based Test Automation

Result: 590 end-to-end test scenarios were automated. That is 85% of their automatable scenarios and 40% of the overall test cases in that project's test portfolio. Once TCD was mapped out for the project, the manual test case templates were created and test case instances were automatically generated. Later, these manual templates were automated and all the test case instances were implemented as automated end-to-end tests. Tricentis provided support throughout the process and helped get the TCD and automation up and running fast. Tricentis also guided them on techniques for keeping the amount of test maintenance to an absolute minimum.

3. Integrate with HPE / Micro Focus Quality Center

Result: Tricentis Tosca's out-of-the-box integration with HPE / Micro Focus Quality Center synchronized test cases, execution results, and defects. The client uses Quality Center for test management needs such as automated reporting and defect tracking. Tricentis Tosca's out-of-the-box integration allowed them to execute manual/automated test cases in Tricentis Tosca, then have their execution status and results automatically synchronized back to Quality Center. Custom Quality Center statuses like NA, Blocked, Deferred, etc. were supported and synchronized alongside built-in options.
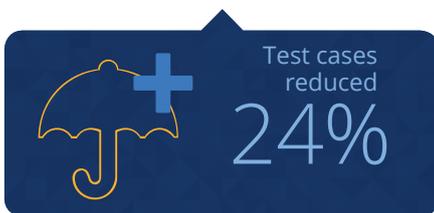
Key Metrics

The client achieved the following results:

- ☐ **Automatable**
- 🟥 **Only Manual** (No Automation possible)

48% | 52%

85%
15%
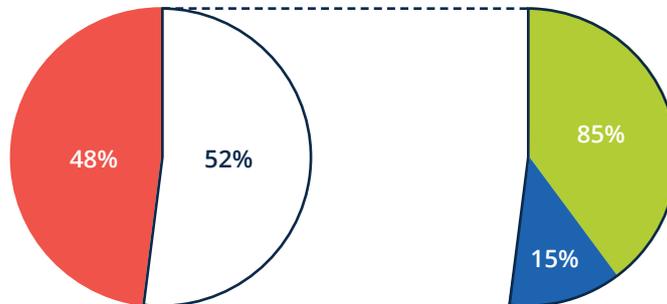
- 🟩 **Actually Automated**
- 🟦 **Remained Manual**

RISK COVERAGE OPTIMIZATION

Test cases reduced
24%

OPTIMIZED EFFICIENCY

33%

AUTOMATION INCREASE

+33%

About Tricentis

Tricentis provides a Continuous Testing platform that accelerates testing to keep pace with Agile and DevOps. With the industry's most innovative functional testing technologies, Tricentis breaks through the barriers experienced with conventional software testing tools - achieving test automation rates of over 90%.

Our 400+ customers include global names from the Top 500 brands such as A&E, Allianz, Deutsche Bank, HBO, JetBlue, Orange, Swiss Re, Telstra, Toyota, UBS, Vantiv, Virgin Airlines, and Zurich Insurance. Tricentis has offices in Austria, United States, Germany, Switzerland, UK, Netherlands, Poland, and Australia.

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The Continuous Testing Company