

Mobile Payment Pioneer Accelerates Go-to-Market Speed from 3 Days to an Astonishing 20 Minutes

How Qualitest's test automation expertise enabled this digital payment innovator to migrate to the AWS cloud and steal a march on its competitors.



Challenges

Our Client's testing for any of the 200 carriers and 300 merchants needed to be done with speed and accuracy.

They decided to shift all its products and services via cloud migration to the Amazon Web Services (AWS) cloud.



Solutions

The implementation of Agile methodologies such as scrum and Kanban.

Ensured our Client developed a continuous-testing mindset and automate 95% of its testing.



Results

The automation solution implemented achieved 95% test automation coverage.

Reduced the run time of testing in each sprint from on average 3 days to just 20 minutes per carrier – a 98.6% reduction.



Client overview

The Client is a mobile payments specialist that partners with over 200 telecom carriers and 300 merchants globally. It enables secure, seamless mobile commerce at scale in compliance with local and international regulations.

Digital brands such as Netflix, Amazon and Google rely on our Client's platform and carrier-bundling services to drive their acquisition of new subscribers, especially in emerging markets. This is achieved using our Client's pioneering API and payments settlement facility, which enables alternative payment methods such as carrier billing and e-wallets.

Meeting a need for fast, accurate testing automation

Our Client always wants to be first to market with new and exciting products for its customers. So, its in-house QA engineering team needs to be capable of performing testing for any of the 200 carriers and 300 merchants with speed and accuracy.

As the existing set-up was failing to deliver, our Client decided to shift all its products and services via cloud migration to the Amazon Web Services (AWS) cloud. It asked Qualitest to provide QA for this migration and oversee the move from two on-premises data centers in Germany and Italy to two AWS cloud environments managed from Japan and the U.S.

The Client chose Qualitest, as it wanted a QA partner that would:

- Understand its industry and business rationale.
- Understand the challenges of testing automation.
- Upskill its in-house QA team so that the handover of each product was seamless and transparent.
- Achieve an optimal level of automation that the in-house QA team could maintain.
- Recommend and put in place automation testing tools that provide performance metrics.

Implementing an automation testing model with three well-defined narratives

Qualitest designed a solution that embraced Agile methodologies such as scrum and Kanban. We also helped our Client develop a continuous-testing mindset and automate 95% of its testing.

Both these elements ensured that we baked in testing quality across functional, end-to-end, smoke, sanity, regression and user interface (UI) testing. It also avoided compromising our Client's go-to-market speed and accuracy.

We implemented an iterative automation model with two clear, well-defined phases:

Phase 1: automation testing transition, identifying the right tests to automate

Qualitest's software development engineers in test (SDETs) examined the Client's existing on-premises, development, pre-production, and production systems. They also gained a detailed understanding of current business test scripts, processes and flows.

We then provided the required automation testing strategy and implementation plan, both of which the Client accepted.

The automation strategy recommended a series of proofs of concepts, which enabled our engineers to identify the right solution, which was to run three distinct types of testing, encompassing end-to-end regression, smoke and full agile DevOps integration tests.



Phase 2: exceptional state project support

In this phase, Qualitest SDETs demonstrated that automation testing of all the applications met the Client's stated testing criteria. They also identified and made improvements in testing areas where analyses revealed gaps that could throw successful migration off course.

- **Test planning**

This included the number of test scripts that were automated per application, what type of testing was performed in each environment (development, pre-production and production), how many times iterations of tests were run and the success rate. A complete show-and-tell hand-over process followed the final cut-over to business-as-usual client operations.

- **Test environment preparation**

This is where we identified the test environment, configured the available test automation framework, and set up and loaded automation scripts for all three automation testing types.

- **Test scripting**

We created and enhanced a small set of existing Java scripts by the identified business functions. We also set the parameters to different values to run with multiple carriers and merchants.

- **Execution & analysis**

Qualitest created various test scenarios according to the planned workload profile of carriers and merchants. These scenarios were executed, the outputs reviewed, the test results analyzed and recommendations for fixes provided.

- **Re-executions**

Based on the fixes received, we re-executed the tests to measure the impact of code/infrastructure fixes.

- **Test reporting**

We prepared the final detailed test report. This contained information on the different tests conducted, fixes applied, results and our recommendations and conclusions.

Creating full confidence in a delivery platform fit for complex migrations

Qualitest designed, created and ran all the automation testing, which has grown from zero to over 2,000 scripts to date. This revved up our Client's go-to-market speed from 3 days per carrier to a super-speedy 20 minutes per carrier. Not only that, in previous sprints, the Client could only handle one carrier per sprint. Now the Client can manage up to 20 carriers per sprint.

We also ensured that each morning we ran smoke testing in the development, pre-production and production environments, providing outputs for any discrepancies before the start of each day. These tests reduced environmental downtime issues by 20%.

All this means that our client achieved its overriding objectives: to gain an edge over its competitors by enabling a quicker release of new products and promotions to market.

Qualitest collaborated with the Client to build a strong automation framework that can be systematically tuned so that specific areas of the application can be tested followed by full end-to-end regression testing. These options have given the Client greater confidence in its ability to get to market quicker than its competitors. It has also increased its reputation as a company that gets it right the first time, which in the payments industry is a priceless asset.



Qualitest also performed many smaller tests with carriers and merchants to prove the application on the old and new architecture. The smaller tests helped to build confidence to plan for the application on the new architecture, and also allowed customers a sneak preview of the new version and assured them of its quality.

Key benefits

The Qualitest team was able to meet the Client's stated goals within the allotted period.

- Qualitest ensured the new architecture was fully proven, and provided confidence to both the business and the customer base for the change.
- Qualitest identified and prevented a critical performance issue which could have hurt the reputation of the Client when migrating between on-premises and AWS.

Qualitest's automation solution achieved 95% test automation coverage and:






- Demonstrated the benefits to our client and drive a cultural shift to continuous testing.
- Reduced the run time of testing in each sprint from on average 3 days to just 20 minutes per carrier – that's a 98.6% reduction.
- Reduced the cost and time of each migrated project and improved time-to-market for future projects
- Reduced environmental downtime issues by 20%, improving efficiency and reducing testing costs.

“ We've increased our Client's reputation as a company that can be relied upon to get it right the first time, which in the payments industry is a priceless asset. ”

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