



Test Triangle's Automation and Firmware Testing along with Continuous Integration has helped in improving software quality of a Major Network Infrastructure solution provider in the Europe

# Case Study



**TEST  
TRIANGLE**

Trusted Partner in IT Consulting

# | Our Client

Our client is a reputable network infrastructure solution provider in the communication and networking infrastructure industry. It offers technological solutions helping in optimizing and managing IT infrastructure. The total turnover of the organization is \$ 1 billion, and it has a workforce of 3500 employees, working from multiple geographical locations.

## | Project Challenges

The client required deployment of an automated web interface, wherein different users can be configured separately. The automated web interface must be capable of working without the specific need of a network administrator, which makes the project very complex and it poses several challenges for the project as below:

- Testing every device, networking switch and the firmware compatibility required lengthy manual testing efforts and it was challenging to cover all the project-specific testing requirement with an end-to-end testing approach
- With successive testing iteration and code upgrade, the testing time will keep on rising, making testing a very time-consuming process
- The testing framework had a requirement to accommodate the frequent changes in the firmware code
- In this complex testing environment, the coverage of all the test scenarios and use cases was challenging
- Successful application deployment needed continuous coordination between the automation testing, functional testing and product development team

# Test Triangle's Solution

There were several specific requirements, and manual testing was unnecessarily increasing the testing turn-over time. Therefore, Test Triangle created a bespoke automation solution, which has the following features:

- An automation framework: A customized automation framework, which was able to provide 100% test coverage of all test scenarios.
- Test Triangle implemented proper test data management and keywords, using Selenium, Jenkins, Page Object model design with help of C# programming language
- Batch Testing: To reduce the testing time and eliminate the redundant tasks, batch testing was conducted using the TestNG framework
- Cross-browser Testing: To create a compatible software application, cross-browser testing was conducted using multiple software and browser versions
- CI Integration (Jenkins): CI integration pipeline, along with continuous testing was used to speed the workflow and assuring that the changes are implemented without creating an impact on other aspects of software development
- Implementation of Page Object model design helped to avoid test script duplication and assuring all the test cases are attended





# | Benefits Achieved

The automation process was successfully completed by Test Triangle, covering all the aspects of testing in very small time.

- Our automation solution drastically reduced approximately 50%, manual efforts
- Test Triangle created an iterative solution, which can execute every night, giving the client a head start in identifying bugs and resolving them
- Our automation testing and reusable test scripts reduced the test life cycle as well as the test suite maintenance cost
- Implementation of Agile automation testing helped to improve ROI with early breakeven point
- CI pipeline along with Continuous testing improved the overall quality standards and encourages the team to push every change without being afraid of breaking anything





# About Test Triangle

Originally founded in 2012, Test Triangle has become a leader in IT consultancy services providing services in application testing, DevOps, RPA, Custom software development, mobile app development, Atlassian consultancy, niche IT staff augmentation and training in advanced technologies. Test Triangle is headquartered in Ireland; but it also has branch offices in London, United Kingdom, and Hyderabad, India. We have exponentially grown to become a team of 200+ members providing services in different verticals such as Banking & Finance, Utilities, Pharma, Retail, IT & Education etc.

Test Triangle's R&D department has created a propriety platform, Test Outsourcing Dashboard [TOD] which can be used to manage software testing lifecycle using collaboration tools like email, live chat, video conferencing. We have also launched a self-service testing platform (the premium version will be released as SaaS solution), which can provide a project overview and real-time updates of the software development lifecycle.

Over the years, we have established the reputation of being a 'trusted partner in IT consulting'. Test triangle is an agile software company, which constantly strives to exceed the expectations of its clients. We adopt the software testing and software application lifecycle to meet the customer's demand in an efficient and reliable manner. With a global workforce, we have proved ourselves in delivering tight-deadline projects.

We are proud to declare ourselves a client of Enterprise Ireland and European commission.



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