

Tshimologong

Silk Performer enables load testing of 50,000 concurrent users to support the successful introduction of the online schools admission system.

Overview

Tshimologong Precinct is a community of future thinkers re-imagining digital innovation for a brighter, more equitable future. Tshimologong is a Setswana word for "new beginnings". It exists to fulfil the "Africa Rising" destiny by producing world class developers, entrepreneurs and innovators of digital technology.

Tshimologong is a digital innovation ecosystem founded in Braamfontein that propels entrepreneurship and grows the skills pipeline for the digital economy through collaboration with academia, corporates, government and entrepreneurs. It provides an example for similar University-based incubators across Africa.

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BARRY MYBURGH

Design and Validation Centre Manager
Tshimologong

Challenge

Gauteng is a major province in South Africa that prides itself on being a 'connected region that leverages technology to provide quality services to citizens'. One of its goals was for their Department of Education to provide an online schools admission system – with the active support from the Department of e-Government. This was widely welcomed as citizens were known to literally sleep on their preferred school's doorsteps to register their child during the window in the 'first come, first serve' system.

The software testing effort associated with this launch was initially done manually, using Microsoft Word and Excel for documentation. This caused a lack of traceability between requirements and the build and test process. It also wasn't clear how defects impact delivery, to prioritize accurately.

In 2016 the introduced online system crashed under a load of many thousands of concurrent users, and it took the Department of Education two weeks to recover and restart the process, resulting in political embarrassment and negative publicity. It was clear that manual testing was not going to be sufficient and Tshimologong was asked to provide an automated testing solution.



At a Glance

- **Industry**
Software and Technology
Education
- **Partner**
IT Ecology
- **Location**
South Africa
- **Challenge**
Provide an automated software testing framework to support successful go-live of an online schools' admission system, as part of a strategic software testing partnership.
- **Products and Services**
Micro Focus® Silk Performer
- **Results**
 - + Introduced test automation framework to load test 50,000 concurrent users
 - + Produced a successful go-live of the school admissions application with over 100,000 applications processed on the first day
 - + Reduced cost per project with Micro Focus agreement

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Contact us at:
www.microfocus.com

Solution

Working with local IT implementation partner IT Ecology, Tshimologong was introduced to Micro Focus Silk solutions, as Barry Myburgh, Tshimologong's Design and Validation Centre Manager, explains: "Previous projects involved purchasing licenses for different testing products which wasn't scalable or cost effective. All projects require testing support and a formal test management framework would provide economies of scale. A strategic partnership with Gartner-recognized market leader Micro Focus could give us an entire suite of test automation solutions."

Tshimologong and Micro Focus entered into a long-term agreement which covered the unlimited use of all Silk solutions, as well as Micro Focus Atlas for requirements management, and Micro Focus Rhythm for agile project management. In addition, a strategic education partnership was created, to cover a COBOL Academic Program and an Automated Testing Education Program.

An example project recently delivered by the Tshimologong Design and Validation (DAV) Centre is the load-tested school admission system for Gauteng province. The DAV Centre worked with IT Ecology to formalize the load testing process in line with best practices, leveraging Micro Focus Silk Performer. Having learnt from the past, the test center created an architecture with 25 virtual servers, each capable of simulating 2,000 concurrent users through Silk Performer. This provided a test emulation

of 50,000 concurrent users and highlighted any pain points before the go-live date so that they could be addressed immediately.

The school admission system was integrated with a Department of Home Affairs solution for sophisticated ID recognition. Users enter their ID number and the admission system collects their personal details from the Home Affairs system to verify their identity. Including the Home Affairs system into the automated testing process ensured that the integrated system was up to the task.

Myburgh comments: "Our confidence in Silk Performer was well warranted. The system went live successfully. At the end of the first day we had already processed over 100,000 school applications which was phenomenal. Typically, over 250,000 children will apply for 400,000 school places. Being able to process this all online has meant an incredible productivity boost for Gauteng's Department of Education."

Results

In recent years, South African companies have been inclined to offshore their software testing, in the belief that it is more cost-effective, and that testing skills are not available locally. A lack of process maturity makes it hard to manage offshore projects, and they are often more expensive.

With the active support from the Department of e-Government, Tshimologong aims to contribute to the local software industry and

create jobs. Its skills academy trains testing teams from Tshimologong's customers using international certification and Micro Focus product training. Collaboration on live testing projects and full skills transfer ensure the customers are equipped to manage their own testing requirements in the future.

Myburgh concludes: "The partnership with IT Ecology and Micro Focus is inspiring. Through it, we can provide township developers and other incubators with free or subsidized software testing services. We are full of optimism and confidence for the future."