



Speed Up Modernization with Automated Testing

Government agencies' IT modernization and digitization efforts can supercharge services to their constituents.

However, to achieve success in those initiatives with confidence requires very strategic and calculated testing that goes beyond the basic pre-deployment verification checks most organizations have on their radar.

With government agencies moving to cloud, adopting more agile methods of software development, and embracing continuous delivery for both cloud-native applications and modernized legacy applications, automated end-to-end testing is key to keep systems working together effectively to advance agency missions.

End-to-end acceptance testing has the reputation of being expensive, manpower intensive, difficult to create and fragile to maintain. According to Dr. Grigori Melnik, chief strategy officer at Tricentis, a provider of continuous testing and quality engineering software solutions, that doesn't have to be so.

"If agencies elevate their testing activities to easily interpret and reuse higher order models, then testing of complex workflows can be accomplished more effectively with business subject matter expert collaboration," said Melnik. "Enriching these models with risk information helps prioritize testing efforts based on the most critical application areas. Agencies should seek not just any automation tool, but a platform that can help manage large, complex systems in a way that allows the team to break apart and understand complexity."

Tricentis' test automation is such a solution. It provides native support

Best Practices to Implement Automated Testing

- > Clearly define test goals and ownership, with common understanding across the agency.
- > Deploy a testing platform that offers elevated levels of testing with abstraction to gain business-level involvement in authoring tests and analysis of results.
- > Engage business experts to help define the test cases/workflows and analyze results.
- > Understand data migration in modernized environments is essential to success. Keep an eye on data governance, integrity, security and privacy.

for more than 160 applications and technologies plus parallelized execution — from on-premises to the cloud, across mainframes, mobile, custom and packaged applications, documents, APIs, and microservices. That broad reach simplifies and hones testing across government's sometimes bewildering range of technologies and platforms. With machine learning advancements, Tricentis empowers agencies to visually drive end-to-end test execution.

"A comprehensive testing strategy should include functional test automation, address parafunctional concerns (such as performance, data integrity, and security) and must integrate with broader continuous integration and observability platforms to ensure fast feedback loops," said Melnik.

Automated testing can accelerate modernization, by building quality at every stage of the delivery process added Melnik. It provides a necessary safety net and DevOps teams can

progress in short iterations. The process can replace time- and resource-consuming "waterfall" development processes, added Melnik.

Automated testing can also facilitate compliance with regulatory requirements, such as the Federal Information Security Modernization Act (FISMA), as well as hone modernization economics, according to Melnik. Automated performance testing makes it easier to discover bottlenecks in highly resource-intensive implementations, he said, and also forms a foundation for cloud infrastructure consumption modeling to see the potential costs.

Ultimately, automated testing solutions can be a force-multiplier for organization-wide modernization efforts. They can be a key to unlocking future capabilities while also supporting legacy systems.

Learn more at tricentis.com/solutions/government