Kratos Partners with LogiGear to implement Continuous Testing to reduce testing cycle from 6 weeks to 24 hours

LogiGear

Business Needs

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Kratos Defense & Security Solutions Inc. is a defense and communications technology company in the forefront of addressing the United States and its allies' National Security priorities in areas such as unmanned systems, satellite communications, microwave electronics, cyber security, and other needs.

In the satellite communications area, the company offers Monics®- the industry's most widely used carrier, monitoring, and interference management product. Monics® protects mission critical satellite bandwidth and provides real-time situational awareness for both satellite, downlinks, and uplinks. Monics is in use by government agencies, commercial satellite operators, service providers, and telecommunications companies worldwide. Monics® allows for automatic monitoring and interference detection using advanced measurement instruments and software. It can be configured to support monitoring applications as simple as one monitoring site or as expansive as a global network. Monics® is comprised of several SQL databases and pulls information from various apps in its suite.

For any new releases, whether major, minor, or maintenance releases, the amount of time to regression test the release could be as much as six weeks using multiple engineers to manually test the product.

FAST FACTS

INDUSTRY:	Defense / Cybersecurity / IT
WEBSITE:	www.kratosdefense.com
COMPANY SIZE:	1,000-5,000 employees
LOCATION:	San Diego, CA-HQ

LOGIGEAR DELIVERED:
- TestArchitect™ test automation platform
- Automated test cases for Continuous Testing
- Jenkins Implementation

BUSINESS IMPACT:
- Increased time to results and faster time to market for new releases
- Confident when making changes

The Vision

With the growing popularity and feature set offered in Monics®, Kratos developers in its Santa Clara, California office sought to streamline and automate their test and delivery processes to assure quality and customer satisfaction. The team made the decision to implement Continuous Testing, recognizing that a solid Test Automation process would be necessary for Continuous Testing to be a success. Previous attempts to implement Test Automation in-house had lacked on-site expertise, so the team set out to look for a testing vendor to help. Kratos wanted a company that specialized in software testing, and that would be able to provide on-site staffing. These two elements would be key to helping implement Continuous Testing for both the SQL databases and applications, enabling a fully scripted Continuous Testing practice.

The Solution

After researching several companies, LogiGear was selected, in large part based upon its track record helping their clientele to achieve end-to-end integration testing with the type of complex systems/configurations Kratos had in their Santa Clara office. Given that LogiGear is also based in Silicon Valley, it would also be able to provide on-site expertise.

Kratos developers were impressed with LogiGear's Test Automation tool, TestArchitect. The Action Based™ testing methodology, TestArchitect's ability to handle multiple configurations, as well as it's extensibility on mobile, desktop, and web made it very attractive for such a complex testing environment. Developers also liked that TestArchitect supported UI Automation technology and reflective technology. This would be a big time saver, as most of their existing manual testing suite was on the application under test (AUT).

Another benefit was that by working with LogiGear directly, Kratos was able to learn on-the-job best practices and methods to use TestArchitect. Finally, TestArchitect's ability to scale quickly and rapidly for Continuous Testing, coupled with its ability to be configured with leading DevOps tools, made for a perfect fit for Kratos' testing needs.

After discussing goals and workflow needs with Kratos managers, it was decided that the project would have two phases. The first phase was to build up enough tests to execute an Automation implementation so that then the LogiGear team would use TestArchitect's existing capabilities to ensure that it would integrate with Jenkins and Kratos could then use immediately. The second phase was to successfully design, develop, and deploy Jenkins pipelines in the test environments.

The Results

During the entire engagement, LogiGear acted as a strategic partner for Test Automation. This included helping Kratos evolve its concept of the delivery process both for automating tests and in creating an efficient workflow. This was outlined as crucial for success in Continuous Testing.

The first phase took about six months to implement from inception through configuration and deployment. This was a rigorous process, and required close coordination between the Kratos and LogiGear teams; it included many steps. After determining with the client which set of existing test cases they wanted to use for automation, the cases were re-written to be used for automation. In addition to the re-use of old test cases, the LogiGear team worked closely with the Kratos team to create new test cases for Test Automation. The tests were scripted/created using the ABT methodology in TestArchitect.

The LogiGear DevOps team concurrently worked on customizing TestArchitect for Kratos. Kratos wanted a summary report that could be triggered by Jenkins that would be sent as TestArchitect test results; they wanted the results displayed in both the dashboard, and send the user a notification via email to view those results from every run.

The dashboard feature was configured to fit the client's needs. After verifying that TestArchitect was running smoothly and that coverage levels were at the desired rate, the second phase began.

The second phase lasted another three months. During this period, continued maintenance and performance was ran on the Automation Test suites. The test cases were then called in Kratos' Jenkins pipeline and were verified as a pass. This effectively demonstrated that the continuous testing practice was a success. Deciding to capitalize on this success, Kratos tasked LogiGear with creating more Automated Tests to better cover the functionality of the AUT. They also asked for more pipeline requirements in order to ensure the effectiveness of their CT program. Kratos continues their engagement with LogiGear starting to implement Continuous Testing across another office location. LogiGear is still doing on-going script maintenance.

> *We are now able to run Automated Tests on every check-in, nightly, and over the weekend. The Automated Tests cover in 24 hours what used to take us several weeks to run manually.*
>
> Chris Dunn
> General Manager – Product Development - Kratos

About LogiGear

LogiGear is a leading provider of software testing services, test automation and application development and maintenance. We help organizations deliver better products while saving time and money. Since 1994, we have completed testing projects with hundreds of companies from early stage startups to Fortune 100, across a wide range of industries and technologies.

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