

# Test Automation Solution for a Leading US-based Oil & Energy company



ATTENTION. ALWAYS.

*aspire*   
SYSTEMS  
*attention. always.*

## ABOUT THE CUSTOMER

The customer is one of the largest fuel suppliers in the US and is ranked by Forbes as one of the Top 40 Privately Held Companies in America. They provide innovative solutions to the most demanding energy procurement, supply, and logistics challenges for companies, organizations, and governments across North America. They offer a broad range of solutions including fuels, natural gas and energy price and data management services. They deliver over 3.5 billion gallons of fuel and complementary products annually to 4,000 customers across the U.S. and Canada.



## ABOUT THE PRODUCT

An enterprise application that supports every facet of energy management needs, from purchasing and processing and finance. It includes applications for supply, trading, logistics, inventories, market pricing, demand, reports, and all aspects of the energy supply chain.

## CHALLENGES

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The customer was having a tough time with the time-consuming manual testing and lack of formal testing which resulted in high defect leakage and low product quality. As the product should be compatible with different platforms, the need to test the functionality was crucial. The product's performance was degrading after adding more services and identifying the right automation tools, framework and solution against the existing automation solution was a feat.



## SOLUTION

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In order to help the customers overcome the challenges, Aspire's QA team, the testing consulting partner, built a strong, reliable QA team that can take care of their end-to-end testing requirements. The following are the solution and engagement of Aspire with the customer:

- A cost effective, robust, and reliable test automation framework with Telerik Testing Framework was provided to help them have undivided focus on their product and faster-time-to-market metrics
- Test automation solution at ZERO cost was designed and it is scalable thereby ensuring easier extension for the future needs
- Enforced strong and extensive QA process
- Operated in an agile mode by proactively preparing test scenarios before the construction of new functional code and sharing with the developers – Helped in having a working code and that meets the requirements
- Defects which were never encountered during tests were identified as Aspire introduced them to exploratory testing of the builds, along with functional testing
- Performance testing – Ran baseline tests to validate the NFR's
- Automated testing – Ran in CI pipeline through TFS



## BEST PRACTICES

- Mind Map – Test Scenarios
- Bug bash
- Knowledge sharing session on the new features – across the team
- Defect Prevention Plan: RCA on defect leakage for each iteration
- Implementation of continuous integration
  - Through CI practice, new builds are verified by automated smoke tests
  - Faster feedback on the new builds
- Continuous code quality through SonarQube
- Performance test reports Grafana : Data visualization & monitoring tool



## RESULTS AND ROI

Here are some of the key benefits the customer derived:

- Enhanced Product Quality - Extensive test coverage and minimal defect leakage: less than 4%
- 1200+ bugs logged in a release and 100+ bugs are uncovered on the new builds during the automated smoke tests
- With our test automation solution, tool cost was cut down by \$5000/year
- 90% of effort cut down through automated smoke testing
- Faster feedback: Bugs were reported in an average turnaround time of less than 1.5 hours

# FUTURE IMPACT

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- Quality product and end user satisfaction
- Minimal defect leakage
- Scalable, rigorous and effective test automation approach will reduce the customer's dependency on manual testing efforts, improve their time-to-market metric and offer a trustworthy environment for them to innovate effortlessly





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## ABOUT ASPIRE

Aspire System is a global technology services firm serving as a trusted technology partner for our customers. We work with some of the world's most innovative enterprises and independent software vendors, helping them leverage technology and outsourcing in our specific areas of expertise. Our core philosophy of "Attention. Always." communicates our belief in lavishing care and attention on our customer and employees.

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