



APTF 2.0 Helped a Leading US-based Oil & Energy Company Achieve Speed, Stability, and Scalability





Challenge:

- *New functionalities deteriorated the app's performance*
- *App failure with the surge in loads & large volumes of transaction*
- *No clarity on performance targets & objectives*
- *Lack of performance testing expertise*

Solution:

- *Continuous Performance Testing*
- *APTF 2.0 – a hybrid framework for end-to-end performance testing*

Results:

Performance Testing enabled by CI/CT and APTF 2.0 helped them achieve the following.

- *Resolve any performance issues in their code earlier*
- *Get the complete picture of the performance during the sprint(s)*
- *App served more clients with desired performance requirements*
- *Enhanced Product Quality & Customer satisfaction on speed, stability & scalability*
- *Exposed more performance issues on the new builds*
- *Tuned System TCP/IP stack, Load balancer, servers for performance*

About the Customer

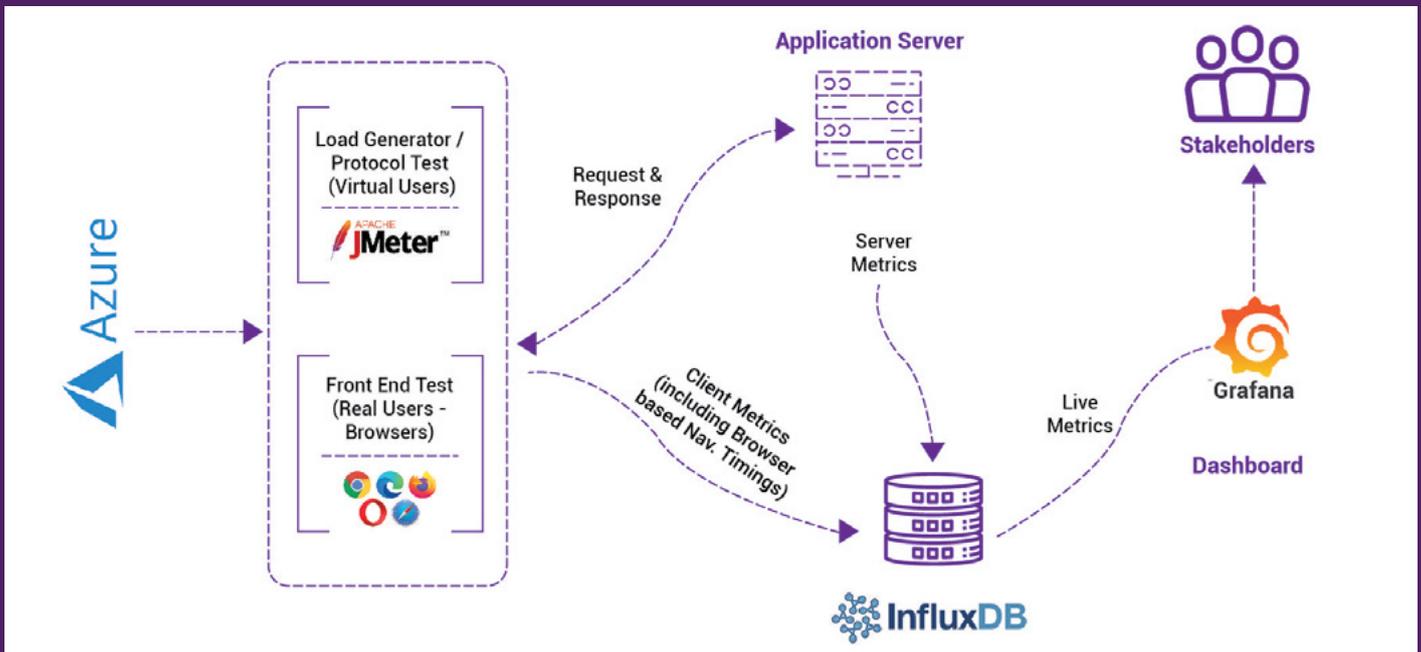
The customer is a large fuel supplier, ranked by Forbes as one of the top 40 privately held companies in America. They focus on offering innovative solutions to the widely-faced challenges in energy procurement, supply, and logistics fields for various organizations across North America. Also, they offer a huge range of solutions including fuels, natural gas and energy prices, and data management services. They deliver around 3 billion gallons of fuel and complementary products annually to 5,000 American and Canadian customers.

The Need

They wanted to develop an enterprise application that is capable of supporting every facet of energy management needs, from purchasing, processing, and finance, and encompass all the aspects of supply, trading, logistics, inventories, market pricing, demand, reports, and energy supply chain.

The Challenges

Their web application with complex integration across many modules and new functionalities are added and revived. The addition of more new functionalities/services to the application led to performance degradation. They needed a testing partner to assess the application, server performance against the performance SLA's and provide easily interpretable metrics report on the speed, stability & scalability.



Highlights of APTF 2.0

- Hybrid Framework – stimulating performance test at Protocol and Real browser
- Load generator server health monitoring
- Well-designed dashboard to monitor and display the test metrics
- Continuous performance testing to uncover any performances related issue
- Considering the continuous performance monitor of application implemented continuous Integration through Azure DevOps



Aspire's Solution

To maintain consistency throughout and ensure that every new version could meet the performance benchmark, the performance CoE team proposed the implementation of automated and continuous performance testing. They could achieve the desired results using the customizable data-driven performance framework ([APTF 2.0](#)) which runs on CI to assess the performance after each deployment. The testing partner suggested and implemented the following results that helped to achieve maximum speed, stability, and scalability of the application.

- Suggested a performance testing solution at zero cost for their existing functional test automation framework, thereby ensuring easier extension for the future needs
- Designed a cost-effective, robust, reliable, and data-driven performance testing framework – **APTF 2.0** with the combination of open-source tools like **JMeter, InfluxDB, Grafana & Telegraf**
- Implemented continuous integration using Azure & JMeter
- Tested the new features for the performance and analyzed the test results with the defined acceptance criteria.
- Provided recommendations to the development team to fix the code drop to achieve the required performance standards
- Scheduled tests through CI set up to run whenever the developer commits a code
- Captured and reported key performance metrics continuously to uncover any performance issues or degradation trends

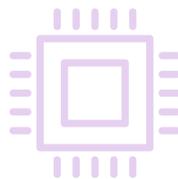


Results

The following are some of the key benefits the customer derived after implementing the APTF for continuous performance testing strategy.

- Addition of performance tests to a continuous-integration process helped in resolving any performance-related issues or bottlenecks in their code since the beginning of SDLC
- Continuous execution and analysis of performance test results helped in visualizing the complete picture of the application performance during the sprint(s)
- Application serves more clients with desired performance requirements
- Enhanced product quality & customer satisfaction on speed, stability, & scalability
- Through continuous testing, more performance issues were disclosed on the new builds
- System TCP/IP stack, load balancer, servers are tuned for performance

Technology Snapshot



» APTF 2.0

» Grafana

» JMeter

» Telegraf

» InfluxDB

» Azure DevOps



Future Impact



Aspire's efforts on dedicated performance testing and continuous execution strategy leads the applications to cope with massive traffic



Increased performance of the application with continuous performance testing



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For more info contact: info@aspire.sys.com or visit www.aspiresys.com

NORTH AMERICA
+1 630 368 0970

POLAND
+44 203 170 6115

INDIA
+91 44 6740 4000

MIDDLE EAST
+971 50 658 8831

EUROPE
+44 203 170 6115

SINGAPORE
+65 3163 3050