

360 Degree Testing Ensures Smooth Functionality for Trucking Intelligence Company



Trigent's dependability and reliability is second to none making them trustworthy partners in the trucking business. The most impressive thing about Trigent is that when something does go wrong, they get on it right away and get it fixed. We value our relationship with them.



Industry

Transportation & Logistics

Business Value

The IoT platform experienced shortened functional release cycles because of Trigent's Testing services.

The comprehensive test coverage ensured better GPS validation, reduced preventive cost by identification of holistic test cases, and reduced detection cost by performing pre-emptive tests like integrations testing.

About the Client

This digitally transformed cloud-based trucking intelligence company provides solutions to help fleets improve safety and compliance while reducing costs. The client's platform combines network communications, mobility and analytics to create futuristic standard in technology-driven fleet performance and decision-making management and is used by more than 2,000 truckload, LTL, private, and energy services fleets in the United States and Canada, including several Fortune 500 companies. The company aggressively develops new products that continue to improve fleet management.

Business Need

The client's digital transformation journey has resulted in a futuristic on-board telematics product that manages several processes and functions to provide accurate and real-time information about fleets. Some of the functions include tracking fleet vehicles, controlling unauthorized access to company's fleet assets, mapping real-time vehicle location,

Technology Stack

- Apache Tomcat
- MySQL
- Apache Http Server

3rd Party Tools

- PCMiller software
- Pro iTools Track and Trace

providing rosters for the drivers for deliveries/pickups and reducing fuel expenses. Further, the enterprise data management software has sophisticated architecture and features that track, monitor, and locate fleet related assets.

The IoT empowered product, manages customers' fleet performance and workflow and thus improves efficiency and decreases out-of-route miles with routing integration, oil field mapping and in-cab navigation. The client's customers know more about their trucks on the road using tire pressure monitoring, fault code monitoring and remote diagnostics link. The on-board device records and transmits information such as speed, RPMs and idle time, distance travelled etc., in real time to a central server using cellular data network. The data stored in the central server is accessed using the associated web application via the internet. The web application also provides a driver portal for the drivers to know/edit their hours of service logs.

Since the system deals with mission-critical business processes, providing accurate and real-time information is key to its success. To ensure smooth functionality, the client wanted a 360-degree test environment to ensure that all the various versions of its on-board devices functioned effectively.

Solution

The client's connected devices, controlled centrally had resulted in data being captured from scenarios and devices. The challenge was to set-up a test environment for the on-board device to accurately simulate the environment in the truck and simulate transmission of data to the central server. Establishing appropriate harnesses to test the hardware and software interface was equally challenging. The other challenges were simulation and real time data generation of the vehicle movement using a simulator GPS.

Trigent's QA and testing consultants met with the client's team for knowledge transfer. In parallel Trigent's test lab was set up with various versions of the hardware and software and integration points with simulators. Using use case methodology and user interviews, test scenarios were chalked out to test the rich functionality and usage

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patterns of the device. Trigent provided functional testing and regression testing of new releases for both the on-board device and web application. For each of the client's on-board product, Trigent provided end-to-end testing solutions ranging from Installation Testing, Functional Testing, Regression Testing, Disaster Recovery, and Database Testing on an ongoing basis.

Client Benefits

As a result of the testing services provided by Trigent, the IoT platform experienced shortened functional release cycles. The comprehensive test coverage ensured better GPS validation, reduced preventive cost by identification of holistic test cases, reduced detection cost by performing pre-emptive tests like integrations testing etc.