



**GadgEon**  
Engineering Smartness



## M2M Telematics Platform- Test Automation

Company had grown by acquisition, resulting in multiple platforms and carriers. Gadgeon QA team helped in improving the platform quality by automating Feature and Regression test cases for release testing.

**Project Period:** Ongoing

**Team Size:** 10 members

**Tools Used:** C#, SQL, Selenium, Nunit ,TFS, Testrail

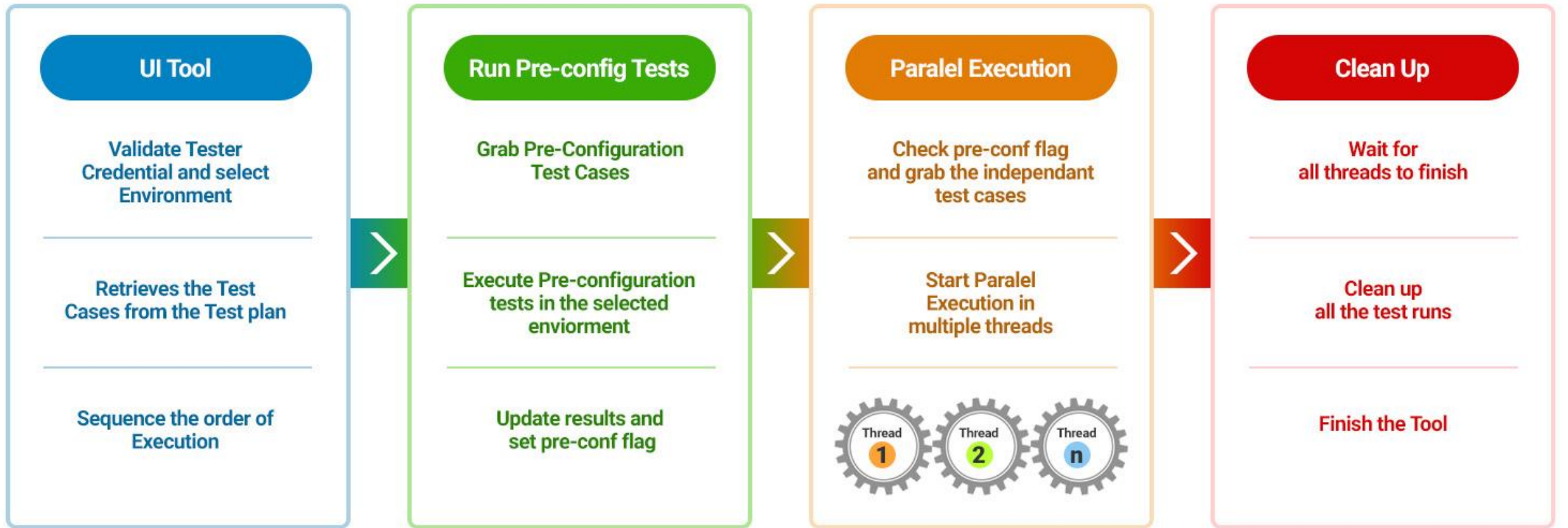
### Challenge

- Release test cases spanned across multiple platforms and carriers.
- Automating irreversible scenarios like usage creation, billing etc , simulation of millions of call record data.
- Absorbing the performance variations in the platforms and produce reliable test results.

### Outcome

- Designed a test framework on C# and Selenium which can simultaneously handle multiple web platforms and interactions between them.
- Test Case Grouping and execution sequencing using custom tags designed in the framework.
- Developed a Call Data Record generation tool which supports multiple carrier usage data simulation.
- Developed helper library methods that can handle finite variation in test platform performance.

# Test Automation Execution Flow Diagram



WHAT DID GADGEON DO?	PLATFORMS/ TECHNOLOGIES USED
<p>Developed windows desktop UI tool using C# for executing the automated test cases.</p>	<p>Tools Used : C# , Testrail Api.</p> <ul style="list-style-type: none"> <li>◦ Validates the tester's credentials and list the test plans available.</li> <li>◦ Retrieve the test cases from the selected test plan.</li> <li>◦ Loads the automated test case dlls.</li> <li>◦ Sequence the test cases retrieved for execution.</li> </ul>
<p>Developed a test automation framework to support parallel execution (simultaneous execution in n browsers).</p>	<p>Tools Used : C# , Selenium , Nunit.</p> <p>Features of the Framework:</p> <ul style="list-style-type: none"> <li>◦ Handle the automation of multiple platforms.</li> <li>◦ Parallel execution of independent test cases to save test execution time.</li> <li>◦ Update the result in Testrail.</li> <li>◦ Helper library methods that can speed up the automation process and handle performance variations.</li> </ul>
<p>Developed a Call Data Record Simulation Tool .</p>	<p>Tools Used: C#.</p> <p>Simulates the usage records for different usage types and carriers.</p> <p>Simulates millions of usage records for stress testing.</p>
<p>Automated Functional and Regression Test Cases.</p>	<p>Features Automated:</p> <ul style="list-style-type: none"> <li>◦ Provisioning.</li> <li>◦ State Changes ( Activation / Deactivation /Reactivation)</li> <li>◦ Usage simulation.</li> <li>◦ Thresholds and Alerting.</li> <li>◦ Billing and Reporting</li> </ul>





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