





## Data Center and Central Office Monitoring

Customer was experiencing difficulties supporting many different variants of their platform.

**Project Period:** Ongoing

**Team Size:** 10 members

**Protocols Used :** SNMP, TL1, TABS, TBOS, DCM ,HTTPS

**Tools Used :** Robot framework, Python, Selenium, TestRail, Jira, Jenkins, OWASP, OpenVAS

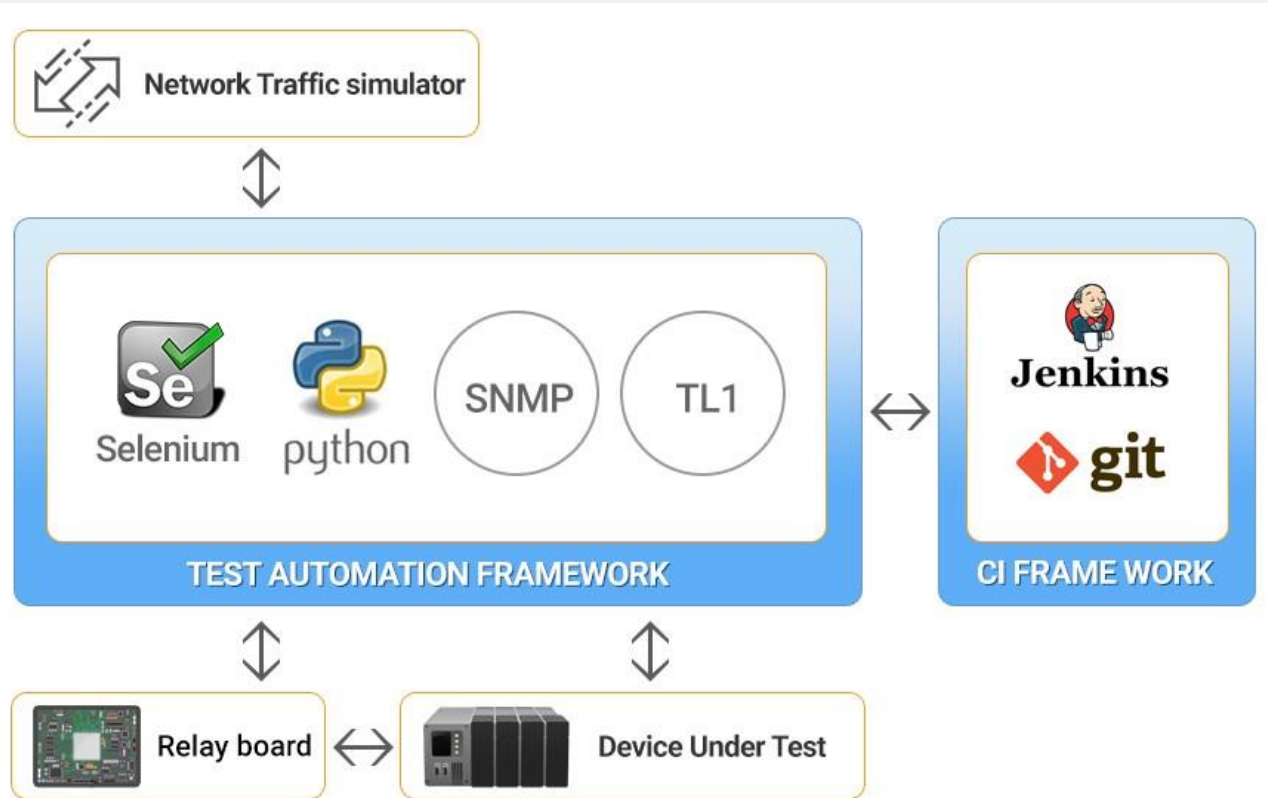
### Challenge

- Customer experienced high total cost of ownership due to multiple HW/SW platforms
- Increased effort and Schedule for quality assurance activities due to multiple protocols and platforms

### Outcome

- GadgEon came up with a SOM-based solution with a homogenous HW/SW platform to cater to all variants of the customer's product. Monitoring and alarm handling system
- GadgEon designed Automation Framework that supports test case convergence spanning different interfaces:- Web-UI , CLI , TL1, and SNMP
- Reduced effort and schedule by automating 95% of regression, reliability and performance test cases.

# Automation Framework Architecture



## Tools / Technology Used

### Device Automation

- Python , Selenium, SNMP, SSH, USB Controlled Relay , HTTPS

### Continuous Integration

- Jenkins
- Git.

### Test Management and Reports

- TestRail
- Robot Framework

### Security/Vulnerability Testing

- OWASP
- OpenVAS

WHAT DID GADGEON DO?	PLATFORMS/TOOLS/TECHNOLOGIES USED
1) Defined Test Strategy for the complete system including different HW platforms with multiple communication protocols	Requirement Gathering & Analysis, defined functional test cases and uses case based on end to end test scenarios
2) Simulated high frequency polling conditions to stress the system	Python based custom stress scripts interfacing USB controlled relay
3) Designed Automation framework which can validate supporting protocols - SNMP, TL1, DCP/F, TBOS, TABS and DCM	<p>NetSNMP Client for validating SNMP Commands and Operations            Designed custom socket module for validating TL1, DCP/F, TBOS, TABS and DCM protocols</p> <p>Achieved 85 % of test coverage for functional test cases            Achieved 100 % test coverage on regression test cases</p>
4) Automated long duration stress test scripts for monitoring system health	Python based scripts monitoring CPU Utilization , Memory usage and communication interface stability
5) Automation framework supporting test evidence and detailed logs including screen shots for ease of debugging.	TestRail , Python, Appium , Selenium webdriver and Robot Framework
6) Security / Vulnerability testing	Owasp, OpenVAS, NMAP
7) Implemented Continuous Integration process as part of development and testing phases	Jenkins, Git, Robot Framework





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