Spirent **Automation Solution**

Reducing Time-to-Market Through Test Case Reuse

Customer Challenge

Major top-selling North American semiconductor company, in the wireless and broadband communication business, needed to facilitate validation of their chipsets with a non-profit research and development consortium. Product sales were contingent on timely comprehensive testing by the research lab. The lab, however, faced rising and expanding demand for testing, but did not have the resources in place to meet the demand. The manufacturer needed to accelerate the approval process to ensure their chipsets met the industry's high quality standards and existing test criteria.

Challenges Overview:

- Severe time to market delays dependent on third-party testing

- Need to maximize available test resources to be reusable and maintainable and to scale easily with future requirements

- Software quality assurance (SQA) engineers constrained bandwidth to develop and maintain test resources

- Need to automate initial testing to avoid time-intensive cycles on future manual regression

- Require a test system that accommodates 24/7 regression testing

Solution Delivery Criteria

Spirent Professional Services test automation experts worked closely with the customer to design, develop and deliver a customized test automation solution to meet the following requirements:

- **Products—**A scalable & stable automation framework facilitating expanded test coverage as needed; Robust, easy-to-use tool with the appropriate interface & built-in support for CLI & SNMP; Response mapping utility & XML queries of mapped response; Built-in functionality for test result archiving & logging all data to the test reports database

- **Process—**Implementation of test automation best practices; The capability to operate easily with multiple workflow threads; Ability to quickly isolate & correct software problems during the early development integration cycle

- **People—**Qualified expertise to deploy the solution & provide engaged consulting for informed use & adoption advocacy for solution success; Post-sales solution training; Support of agnostic off-the-shelf traffic generation tools & optical taps, including Spirent

Customer Pains

- Increasing lag time to market, releases dependent on third-party validation

- Constrained & outdated testing resources, heavily manual, time-consuming testing cycles

- Lack of reusable, scalable and maintainable testing solution

Solution Requirements

- **Product—**Comprehensive test case & test suite automation and easy-to-use generation, scheduling, centralized report monitoring & storage

- **Process—**Implementation of proven best practices & evolving test methodologies

- **People—**Professional Services consultation, delivery expertise & training through engagement

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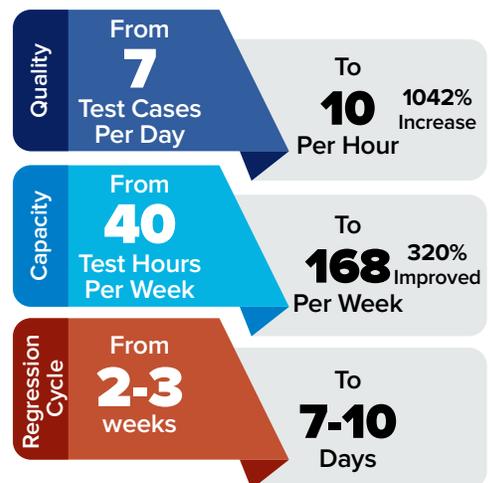
Solution Delivery Components

- Professional Services consultation, adoption advocacy and delivery expertise throughout the engagement
- Spirent iTest and Velocity development system: Software for creating new test cases, scheduling test suites and communication with devices
- Implementation of test automation server
- Implementation of an artifact storage server and software code revision control server
- Development of initial automated test suites, as well as, extension of existing automated tests
- Create and save test suites to be run in reusable batches or individually, with ability to monitor test case progress
- Implementation of centralized test report database
- Implementation of code coverage reporting and ability to view and download results
- Training and transfer of solution information and test automation best practices

Solution Outcome and Benefits

- **Accelerated Test Case Execution—**From 1 hour per test case to 6 minutes. 7 test cases per day to 10 per hour
- **Optimized Testing—**Achieved with the robust and easy-to-use automation tool enabling QA automated testing and developers to write sustainable automated functional tests that are reusable for regression testing
- **Extended Testing Capability—**From 8 hours per 5 day week to 24/7 testing
- **Enhanced and Faster Comprehensive Test Reporting—**Resulting in simple-to-perform troubleshooting resulting in a four time improvement in debugging
- **Faster Release Cycles—**To market due to research lab's adoption of test suite and best practices producing accelerated validation testing for vendor, regression testing cycle reduced from 2-3 weeks to 7-10 days
- **Expanded Testing Complexity—**As the ability to work easily with multiple workflow threads increased
- **Enhanced Isolation and Correction of Software Problems—**During the early development integration cycle
- **Assurance of a Stable and Scalable Automation Framework—**Facilitating expanded test coverage, as well as, support of agnostic off-the-shelf traffic generation tools and optical taps

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With Spirent Automation Solutions Realize More…

- **Profitability—**Accelerate defect detection, earlier and increase revenue by getting products to market faster
- **Customer Satisfaction—**Reduce released defects with expanded test coverage and speed time to market
- **Productivity—**Automate repetitive tasks and reuse of test cases maximizing time and freeing test team for innovation
- **Visibility—**Increase insight into testing progress and identify resource bottlenecks

Quality From **7** Test Cases Per Day — To **10** Per Hour **1042% Increase**

Capacity From **40** Test Hours Per Week — To **168** Per Week **320% Improved**

Regression Cycle From **2-3** weeks — To **7-10** Days

> "Working with Spirent for our test automation solution resulted in a 3x improvement in SQA engineer productivity"
> — *Chipset vendor, Test Lab Manager*

Contact Us

For more information, call your Spirent sales representative or visit us on the Web at https://www.spirent.com/ContactSpirent.

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