

Spirent Automation Solution

Performance Testing for Increased Visibility

Customer challenge

A major telecommunications services provider was receiving constant customer complaints about the quality of their offerings involving WiMAX, ADSL and LTE. Their customers were reporting serious issues but the service provider had no visibility to determine if or how the network infrastructure affected customer experience. With many of their sites being remote, the logistics required for dispatching truck rolls to test each location onsite was cost prohibitive. They needed a solution to increase the visibility of their network infrastructure to validate its Quality of Service (QoS) and Quality of Experience (QoE) for data and video services.

Challenges overview:

- Lack of comprehensive and uniform testing capability to assure QoS and QoE at all sites and throughout the network
- Cost prohibitive on-site testing of remote locations threatened overall customer satisfaction and risked erosion of customer base
- Absence of centralized reporting view to validate the network infrastructure performance
- Correlation of testing reports between test sites and network was non-existent, making proactive fixes virtually impossible

Solution delivery criteria

Spirent test automation experts worked closely with the service provider to design, develop and deliver a customized and integrated turnkey solution for multi-site test case automation to meet the following requirements:

- **Products** – Layer 2/3 & Layer 4-7 active network performance testing, generating real traffic for QoS/QoE; A scalable & stable vendor-agnostic automation framework on mini-PCs for multi-site probe test execution; Robust, easy-to-use test automation tool with the appropriate interface & built-in support for validating a wide range of performance testing criteria; Off-the-shelf functionality for test result archiving & logging all data to a centralized test reports database
- **Process** – Implementation test automation best practices to support End-to-End testing, troubleshooting; Capability to optimize & automate testing team members of all skill levels; Strengthen ability to quickly isolate & correct issues with rapid response times; Effective & transparent test reporting;
- **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

Customer pains

- Non-existent Layer 2-7 performance testing strategy leaving visibility blind spots in network-wide QoE/QoS
- Need for standardized, reusable, scalable & maintainable testing solution
- Absence of dashboard control for test scheduling & centralized report management

Solution requirements

- **Product** – Optimal performance testing capability; comprehensive test case automation and easy-to-use generation, centralized report storage
- **Process** – Implementation of proven test automation best practices; Transparent reporting
- **People** – Professional Services consultation, delivery expertise & training through engagement

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Solution delivery components

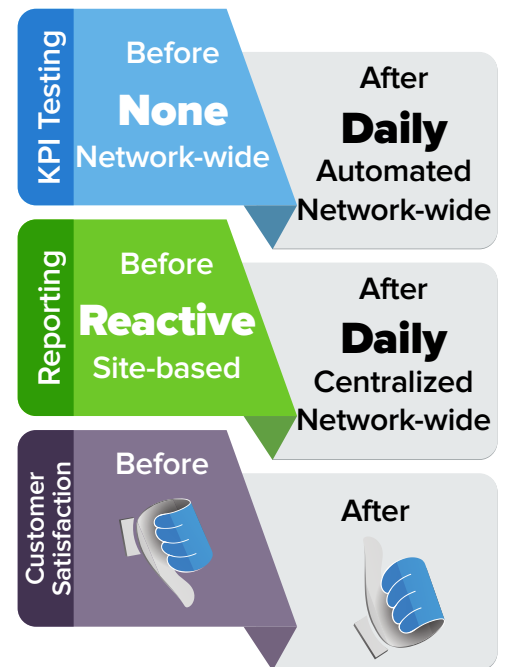
- Proof of Concept (PoC) trials and demonstrations
- Professional Services consultation, adoption advocacy and delivery expertise throughout the engagement
- Spirent TestCenter Virtual – Software for Layer 2 & 3 Throughput and Latency testing
- Spirent Avalanche Virtual – Software for a range of Layer 4-7 testing including: Internet application traffic, Unicast and Multicast Streaming QoE
- Spirent iTest – Software for agnostic automation of test cases for various testing elements into a cohesive testing strategy, for creating new test cases, scheduling test suites
- Implement central server and custom dashboard for automated testing and report analysis
- Setup and configure mini-PCs to be deployed across 20 sites with ADSL, LTE and WiMAX modes connected
- Emulate concurrent multiple traffic with different attributes and priorities for QoS/QoE
- Training and transfer of solution information of test automation best practices

Solution outcome & benefits

- **Optimized performance testing capability**
Achieved with the robust and easy-to-use custom dashboard tool enabling automated testing
- **Daily KPI tests achieved**
Where no visibility into network infrastructure existed before
- **Acquired accurate and detailed measuring data**
Of the network performance to facilitate quick accurate troubleshooting
- **Accelerated comprehensive dashboard reporting**
From occasional sporadic site-based manual reports to daily site-wide automated reporting, delivering timely results for accelerated troubleshooting and rapid issue resolution
- **Rapid network-wide issue resolution**
As problems are found quicker and proactively addressed
- **Increased customer satisfaction**
As issue resolution is reliably streamlined
- **Historical analysis of trends**
Now available with all network metrics data stored in central database, facilitating powerful data mining and analysis

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 & speed time to market
- **Productivity** – Automate repetitive tasks & reuse of test cases maximizing time and freeing test team for innovation
- **Visibility** – Increase insight into testing progress & identify resource bottlenecks



“Spirent provided the performance testing capabilities we needed, making it possible to test remote sites and to provide centralized reporting”

— Service Provider,
Test Lab Director

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