Solver

Load testing of complex networks

REDUCE THE PAIN OF IMPLEMENTING VoLTE

Polystar

SOLVER - LOAD TESTING OF COMPLEX NETWORKS

The award-winning Solver is a powerful tool for performing load and feature testing of SIP, PSTN, 2G, 3G and 4G voice services in telecommunications networks. It helps CSPs, operators and manufacturers to assert full control over their networks, manage network upgrade projects and confirm compatibility between equipment from different vendors.

Today's networks are complex. They may consist of multiple parallel domains, from an IMS core to 2G, EDGE, 3G and 4G radio access networks. When new infrastructure is deployed, it must be thoroughly tested to ensure it is compatible with the existing architecture and elements. Similarly, each time a network element is upgraded, regression testing must be performed across the entire network to ensure a consistent experience for all subscribers.

This presents a series of problems for operators. Despite the widespread adoption of standards from 3GPP and others, system integration and interoperability remain consistent challenges. Keeping projects on time and within budget is difficult. Solver is the solution to such problems. Because of the breadth of support it offers for 2G, 3G, LTE and other standards, it provides a single platform that enables single and mass call sessions to be established from any network domain to any other.

SOLVER - ENSURES INTEROPERABILITY, REDUCES TIME TO MARKET

Solver gives operators access to a simple, user-friendly tool that considerably reduces troubleshooting effort and time. The combination of LTE and legacy network technology into a single, convenient package means that operators can considerably simplify their test equipment needs as well as dramatically reduce costs. One platform provides the versatility required for a multitude of tasks, increasing return on investment.

The versatility of Solver makes it a key resource for all test requirements, across multiple departments – from purchasing, installation, licensing and training, to testing, reporting and maintenance. With the capability of simulating millions of subscriber sessions, Solver simplifies qualitative performance analysis for equipment manufacturers and network operators.

Polystar continuously enhances Solver with new functionality to address emerging challenges. The latest release is focused on enabling rich voice services in converged networks, addressing the needs of VoLTE, WebRTC and RCS technologies.

KEY BENEFITS

- Integrated, single platform for 2G, 3G, LTE, VoLTE and IMS Networks
- Simple workflows
- Validation of multi-vendor networks
- Simulation of thousands of active users for load testing
- Verify complex network upgrades

SOLVER - PROVEN USE CASES

Solver has many use cases and its value has been proven repeatedly. For example, the rollout of VoLTE is a significant migration from early-stage deployments of LTE. It requires full implementation of an IMS core and the layering of voice services on top of the data network. Services must operate effectively, not just within the LTE domain but also when users drop out of LTE coverage and revert to 3G or even 2G access.

Solver dramatically reduces the time to complete deployments and to ensure interoperability between different domains in the same network. A range of testing scenarios is possible, from the simulation of a small number of LTE UE devices to verify the connectivity and VoLTE functionality offered by the EPC and IMS. Traffic can be loaded onto the system, enabling bulk testing of tens of thousands of calls and the simulation of heavy traffic conditions.

The same steps can be applied to include devices in 2G and 3G domains, with handover between each. SRVCC functionality can easily be tested, with the additional benefit that handover times can be measured and verified to ensure they are within the required performance limits. Solver can also be complemented by Polystar's OSIX probes, which further accelerates troubleshooting time during deployment phases.

Further test cases can be built on the fly, ensuring maximum flexibility for different scenarios from the same system. When equipment is upgraded, the regression testing can be performed to ensure a consistent experience for all users and to support the integration of multi-vendor networks.
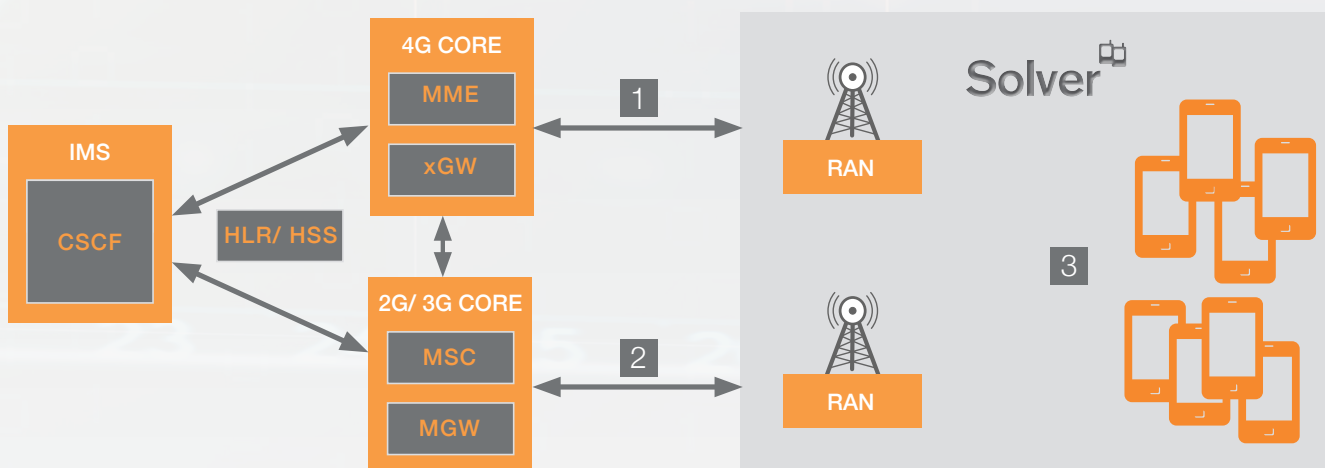
1. Begin with Solver Lite to simulate up to 100 LTE UE's. Testing VoLTE deployment, verifying the connection and VoLTE functionality of EPC and IMS.
2. Expand to include existing 2G/3G core, verify SRVCC functionality, measure and verify the handover times.
3. Expand to tens of thousands of simulated UE's to stress test the deployment and measure critical KPIs in realistic conditions.

Solver from Polystar.
An Award-Winning
Feature Set

5GWORLD
MENA 2016
A W A R D S
FINALIST

LTE ASIA
AWARDS 2014

Finalist
NFV Innovation of the
year & Best LTE Test &
Measurement Solution

Winner
Best LTE Test &
Measurement
Product

⬡ Support for 2G, 3G, LTE, VoLTE and IMS interfaces

⬡ Feature testing – to assure QoE and deliver the best possible end user experience and minimise churn

⬡ Conformance testing – verifying that network elements perform according to industry standards

⬡ Vendor selection testing – evaluating different vendor equipment for optimal selection in terms of quality, performance, and/or interoperability

⬡ Billing system verification – generating and checking CDRs for correct billing, to assure revenue while avoiding dissatisfied customers due to incorrect invoicing

⬡ Regression testing – performing frequent and repeatable testing to assure consistent network quality

⬡ Service verification – to test network elements on a continuous basis, isolating problems before customers complain

Polystar