

SEGRON Testing Solutions

Automatic Testing Framework - ATF

Professional Test Automation for IT and Telecom Networks

The Industry's First True End-to-End Expert Testing Solution

SEGRON ATF is the first testing solution in the industry to provide both true End-to-End testing and full access to the systems under test, including Signalling Trace and system log analysis.

ATF is a product of SEGRON's Business Solution product platform, for feature-rich, high performance verification. It answers the demand of operators and device makers for expert testing solutions to facilitate an extreme fast verification phase and to ensure highest quality and efficiency.

Highlights

- Easy to use in Lab and Production network environments
- High throughput > 500 end-2-end tests / day / ATF
- Web GUI and Mobile E2E automation
- Signalling protocol analysis
- Capable of VoLTE and IMS verification
- Easy Test Case coding language – designed for non-developers
- Low system requirements running on Linux, Mac OSx and Windows Operating Systems
- Applicable for black-box (calls only) and expert testing (calls + trace and log analysis)

ATF Hardware & Operating System

For the SEGRON ATF solution, any commercial hardware platform can be used. Integration on out-of-the-box Windows, Linux and Mac OSx Operating System are available.

ATF Software

As a product from the SEGRON Business Solutions product family, the ATF software with its integrated features is designed to deliver the industry's most cost-effective and compact solution for test automation. SEGRON's field-proven ATF series and its modular software architecture are highly optimized for IT and Telco and deliver highest flexibility and reductions in system cost.

Device & GUI Automation

The ATF can automate mobile devices, fixed phones, web-based GUIs, applications and integrates with the Business Support Systems (BSS) of our customers.

Our Customers

Network operators, MVNOs, system integrators and Telco equipment manufacturers are using our solution to improve the testing process and reduce costs.

Key benefits

SEGRON Testing Solutions

Based on numerous years of IOT, field trial, and commercial deployment experience on both operator and vendor side, SEGRON Testing Solutions are tailored to

- Improve quality
- Reduce project duration
- Reduce project costs

Signalling Protocol Analysis

Signalling tracing and analysis is essential for high quality testing. Decades of proven field experience in software development and signalling network design result in the ATF Signalling Protocol Analysis feature. It enables the ATF user to analyze and verify the entire 3GPP and IETF protocol stack on bit level.

Quality Improvement & Cost Reduction

Using SEGRON's ATF series improves test quality and reduces test duration at the same time. This results in significant cost reduction and much quicker time to market.

CDR/EDR and Log Analysis

ATF supports both CDR and EDR analysis and provides flexible internal log analysis on the system under test via various interfaces.

Automatic Reporting

The ATF generates fully customizable reports and logs after each test run and delivers an optimal documentation for KPI analysis.

Integrates with the MML syntax of all major network equipment manufacturers

SEGRON ATF is designed to integrate with the MML and GUI configuration interface of all major IT and Telco equipment manufacturers. This feature enables flexible configuration and internal log analysis to ensure highest test quality.

Advanced RAN features

Powerful forcing functions (GSM, WCDMA, LTE carrier lock) and speech quality measurements enable efficient field test automation.

Testing Solutions for multiple locations and networks

The ATF series is made for multiple locations and testing in complex network environments. This feature enables cross border, roaming and inter operator service and billing verification.

SEGRON Automatic Testing Framework (ATF) is a product of the SEGRON Business Solutions product line.

ATF provides optimal Testing Quality, improved efficiency and leads to significant cost reduction.

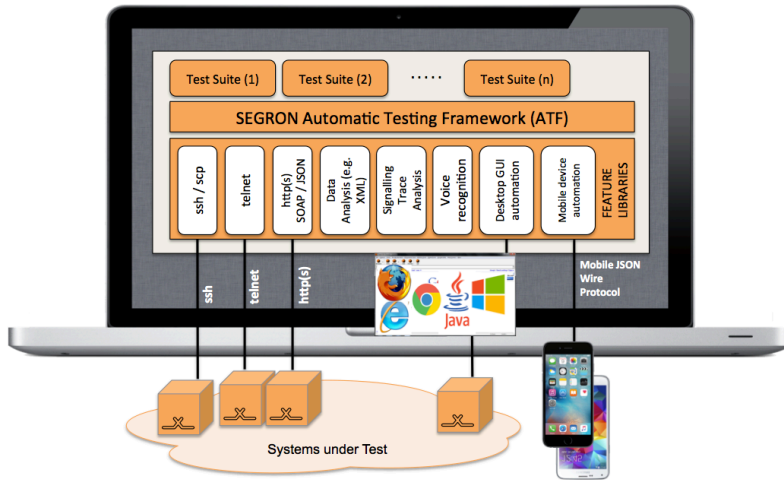
SEGRON Automatic Testing Framework - ATF

End-to-End testing solution for IT and Telecom Networks

Full-featured testing solution for professional automation

The ATF is an extremely efficient automatic testing solution and is designed to maximize testing throughput and to significantly reduce project duration. The ATF software runs on standard hardware and Linux, Windows or Mac OSx, providing maximal flexibility and easy usage.

ATF block diagram



Product characteristics

Throughput

> 500 end-2-end test / day / ATF tool

Hardware

- ❑ Out-of-the-box PC (Desktop/Laptop)
Intel i5 or comparable CPU, 8GB RAM
- ❑ Apple Mac (pro and power Mac)

Software (OS)

- ❑ Out-of-the-box MS Windows
- ❑ Out-of-the-box Linux
- ❑ Mac OSx

Mobile Automation

- ❑ Out-of-the-box Android devices
- ❑ Out-of-the-box iOS devices
Mobile-to-Mobile interactions (calls, WhatsApp, messages, etc.)
- ❑ Testing and/or Controlling of multiple devices
- ❑ Unlimited number of devices in Client-Server setup
- ❑ Speech path verification

GUI Automation

- ❑ WebUI (html, java)
- ❑ Applications (java, windows executables)
- ❑ Command prompt (SOAP, LDAP interface)
- ❑ Cloud Integration (e.g. SouceLabs)

Signalling Protocol Analysis

(selection of most important protocols)

The ATF is basically capable to analyze all protocols decoded by Wireshark.

- ❑ IETF: SIGTRAN – SCTP, M3UA, H.248, BICC, SIP, ...
- ❑ ISDN, ISUP, MTP3, SCCP
- ❑ CAP / INAP
- ❑ MAP, DIAMETER
- ❑ LTE protocol family – S1AP, NAS, GTPv2, GTP-U, SGsAP ...
- ❑ Internet protocol family – TCP, UDP, HTTP, DNS, ...
- ❑ ASN.1

Protocol Analyzer

- ❑ Wireshark
- ❑ OSIX
- ❑ Nethawk
- ❑ Nexus
- Other Analyzer formats on request

Advanced RAN Functions

- ❑ System & Band lock, GSM, WCDMA and LTE carrier lock,
- ❑ Scrambling code and PCI lock
- ❑ Speech Quality measurement

Audio Quality Verification

- ❑ Audio fingerprinting for tone and announcement analysis

Application testing

- ❑ Built-In App (e.g. Phone App) testing
- ❑ User App (e.g. WhatsApp) testing
- ❑ Custom Development App testing

Product characteristics continues

HF Attenuator Automation

Out-of-the-box automation of all major brands

SIP Phone Automation

- ❖ Complete automation of SNOM SIP phones
 - including tone and audio path analysis
- ❖ Real time SIP protocol analysis

Legacy Telephony Automation

- ❖ Automated POTS service verification
- ❖ Automated ISDN service verification
- ❖ FAX, Data and Voice service verification

Automated Document analysis for invoice verification

- ❖ PDF format supported

Internet of Things (IoT)

- ❖ Major chipset manufacturers supported
- ❖ Automated testing of IoT application

Keyword driven approach

- ❖ Easy readable, technology independent Test Case design