# VIAVI

Viavi Signaling Analyzer Family

Delivering premier protocol analysis and network diagnostics for today and tomorrow's complex mobile networks

Mobile networks have evolved to LTE where voice and data services all reside in one high-speed, IP/Ethernet EPC and OFDM-based radio access network, and service provider (service provider investigations) investigations are underway for 5G networks supporting the Internet of Things (IOT). Satisfying the new requirements for monitoring and troubleshooting fourth-generation (and beyond) mobile radio access and core networks requires a flexible and powerful protocol analyzer solution. The Viavi Signaling Analyzer family maximizes the effectiveness of engineers who develop, plan, install, optimize, and troubleshoot complex mobile networks. This robust product family delivers on the needs of higher intelligence and performance required for 4G and 5G wireless technologies.

The Signaling Analyzer solution offers a highly effective troubleshooting methodology with a high-performance, client server, multi-user architecture and seamless drill-down from statistics and call traces to messages and decodes. The solution allows complete and uniform network and individual call performance testing across all mobile network technologies and call types to quickly and easily resolve even the most complex interoperability problems.
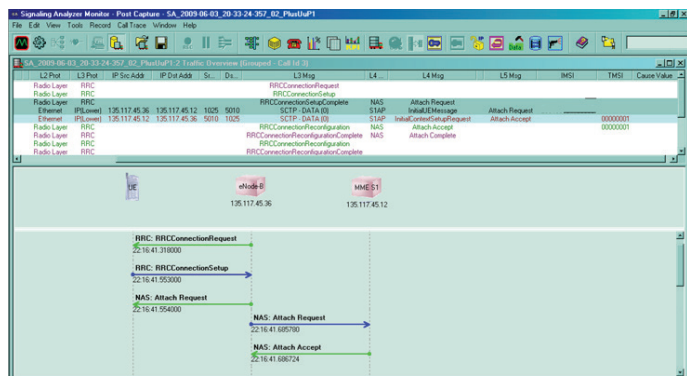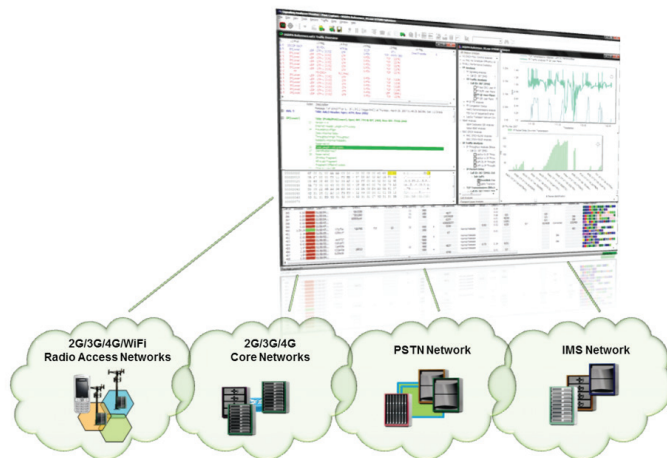

Multi-technology ready solution

Signaling Analyzer offers one application framework with a common feature set for a single, integrated multi-technology solution. Utilizing a uniform application framework for all technology needs within both the engineering and operations organizations saves customers on upfront costs through the technology evolution and realizes significant ongoing OpEx savings later. Additionally, with new multi-band, multi-technology base stations, it is critical that the protocol analysis solution you standardize on is available in a single, integrated application.

Technology support within the Signaling Analyzer family includes:

- LTE (up to 3GPP Release 13 – include NB-loT) and VoLTE/IMS

- Voice/Video over WiFi/WLAN

- UMTS, HSPA, and HSPA+

- GSM, GPRS, and EDGE

- SS7

Signaling Analyzer is a multi-technology solution

Functionality that can quickly identify and solve problems in complex mobile networks

Automatic Configuration and Deciphering

Signaling Analyzer remote clients can connect, auto-configure (for the connected technology/interface) and begin analysis in minutes. The solution also performs automatic deciphering of (for example) S1 NAS, lub, and Gb links, and applies flexible methods to ensure successful testing with IPSec decryption.

Statistics to Quickly Identify Areas of Poor Performance

Graphical statistics and key performance indicators (KPIs) help visualize various informational and network performance elements, such as call success ratios, signaling and call load, failure cause value distributions, cause value rates, user-plane performance and service-delivery degradation, and metrics.

Quick Problem Diagnosis with Just Three Mouse-Clicks

Signaling Analyzer is a very efficient troubleshooting application that lets users find network problems and service degradations in just three mouse clicks. Start by enabling the graphical call trace engine. The phase graphics display call and session events in various icons and color codes so you can immediately decide on which calls to focus your troubleshooting efforts. Clicking on the call trace line item brings you straight into the message and decodes to analyze a specific call. Flexible logging options enable users to choose how, where, and when to capture and save data.
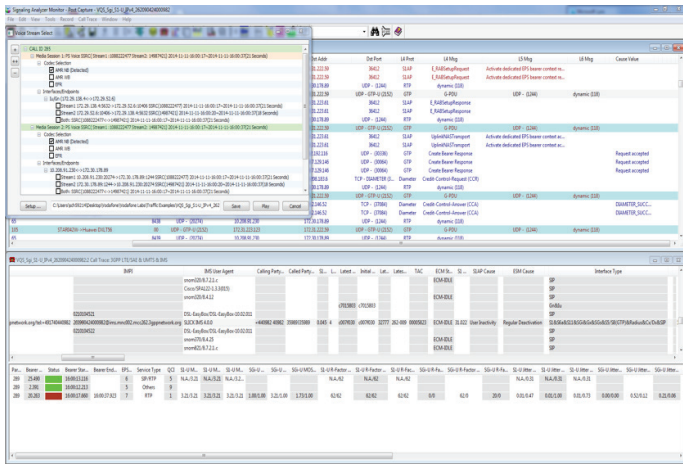
Signaling Analyzer example analysis

## Functionality that lowers total cost of ownership (TCO)

Multi-User Operation

The multi-user Signaling Analyzer system enables high-performance multi-client analysis with several clients in a single solution. All clients can simultaneously, yet fully independently, access measurements flowing through the same hardware platform without impacting or limiting overall system performance. This solution provides the most flexible, truly scalable, and high-performance approach to multi-user functionality available today.

High Performance, High Density, Data Access

The Signaling Analyzer 10 GigE/1 GigE data access interface card is a next-generation design providing full packet capture and analysis of Ethernet based traffic at up to 40 Gbps with zero packet loss for all frame sizes (from 64 to 10,000 bytes). Even when the Signaling Analyzer is configured as a field portable unit, two such interface cards can be supported and traffic from multiple ports in the network are captured and merged into a single analysis stream.

Data Access Solution Re-Use

The Signaling Analyzer also supports data collection from xSIGHT Traffic Analysis Agents (TSAs). xSIGHT is a network-wide, 24x7, assurance and analysis solution. Making use of TSAs for data access significantly reduces the Signaling Analyzer solution costs and increases the ROI from the xSIGHT TSAs. When using TSAs, the Signaling Analyzer can automatically copy the configuration information from the TSA and populate the Signaling Analyzer configuration tables, as well as extract the enrichment data held by the TSA for each packet.
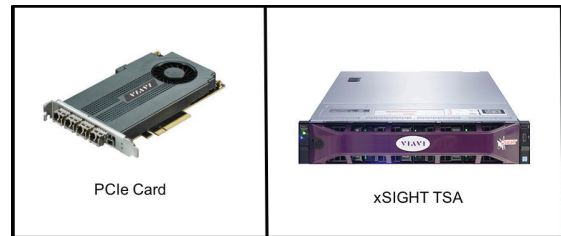
Signaling Analyzer Data Access Sources

Use models covering lab and field

The Signaling Analyzer can be configured to address use models covering both laboratory and field operations. For lab use cases, the ideal configuration is for the Signaling Analyzer software and 10 GigE/1GigE data access interface to both be installed in a standard off-the-shelf server. When a field dispatch use case is required, then the software and 10 GigE/1 GigE interface card can be deployed in the ACME Netpac Portable Server, a portable, rugged, server package specifically designed for such field dispatch use cases.

Signaling Analyzer Field Portable Solution

For use cases where a distributed network solution is required, the Signaling Analyzer software, installed in a centrally-located server, can connect to remotely-located xSIGHT TSA agents (where an xSIGHT solution is already deployed). xSIGHT TSA agents are also deployable in a virtualized configuration, enabling the Signaling Analyzer to be used for the monitoring and troubleshooting of NFV-based networks.
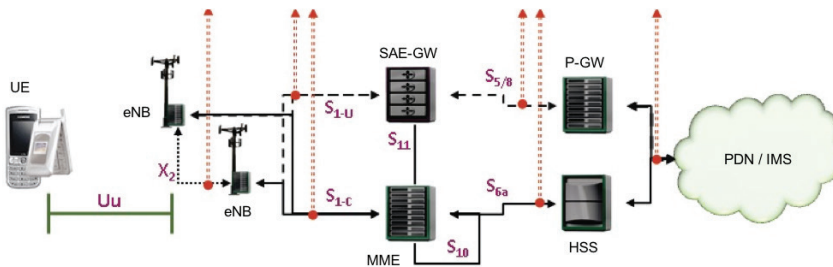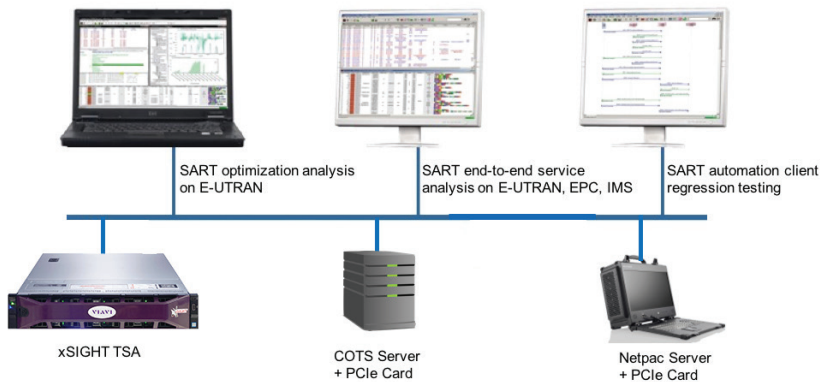
Main products

The main Signaling Analyzer products are the real-time analysis software and the data access interface card, including the supported SFP-based transceivers.

Key product numbers are as follows:

Signaling Analyzer Real-Time Analysis Software	
J7880A	LTE + SAE
J7844A	VoLTE + IMS + Voice |Video over WiFi | WLAN
J7843A	UMTS + HPSA + HPSA+
J7841A	GSNM + GPRS + EDGE
J7840A	SS7 + SIGTRAN
Signaling Analyzer 10 GigE/1 GigE Data Access Interface Card	
J6873A	10 GigE/1 GigE Blade Interface
J6873A-10G	10 GigE/1 GigE Blade Interface
J6758A	SFP Transceivers for J6873A Interface Card
xSIGHT Data Access Traffic Storage Agent (TSA)	
J9002A	TSA with 24 TB storage capacity
J9003A	TSA with 48 TB storage capacity
J9004A	TSA with 72 TB storage capacity
J9005A	TSA with 96 TB storage capacity

For detailed configuration and pricing information on the Signaling Analyzer family, please contact your local Viavi Solutions sales representative.

SART optimization analysis on E-UTRAN

SART end-to-end service analysis on E-UTRAN, EPC, IMS

SART automation client regression testing

xSIGHT TSA

COTS Server + PCIe Card

Netpac Server + PCIe Card

Signaling Analyzer: uniquely flexible and scalable industry-leading solution

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