

SGA-TG

Complex Traffic Generator for the Mobile Core

Capabilities and Target Applications

AITIA's SGA-TG traffic generator is designed for stress testing mobile communication networks. The system is capable of simulating activities of hundreds of thousands of users and generating packet switched (PS) and circuit switched (CS) traffic in highly loaded 1 Gbps or 10 Gbps Ethernet interfaces. Individual user profiles and user groups can be defined on demand. Control and user data messages are handled at the same time, but separated in different interfaces.

The system can be used for finding bottlenecks in core mobile communication networks, useful for testing and verifying the operation of network devices, and helps in optimizing network topology.

The primary target audience for this traffic generator is mobile service providers and academic institutions.



Why is AITIA's product better than competitor's similar products?

- Extreme traffic load together with high number of simulated parallel users
- Cross-protocol traffic generation:
 - Testing packet switched (PS) and circuit switched (CS) traffic with dedicated instruments
 - Multiple protocols: SS7, SIGTRAN
 - Simulates multiple devices across multiple physical connections
- Complex mobility scenarios
- Dialogues completed through simulated core elements for complex SGSN, MSS and MME stress-testing
- Flexible configuration
- Simulated traffic is based on pre-recorded real-life traffic scenarios
- Parameters of user activity patterns can be modified at will
- Provides a variety of reporting formats



AITIA International, Inc.

Czetz J. utca 48-50., H-1039 Budapest, Hungary
Tel.: +36 30 397-8303, +36 1 453-8080 Fax: +36 1 453-8081
E-mail: sga@aitia.ai
sga.aitia.ai

SGA-TG

Complex Traffic Generator for the Mobile Core

Technical details

Simulated components and protocols:

- In the PS domain the RNC, BSC and HLR, AuC and EIR network components are simulated/handled separately; SGSN can be tested directly, GGSN indirectly
- In the CS domain HLR, AuC, EIR, RNC and BSC are simulated for MSC (MSS), VLR testing
- RNC simulation (SIGTRAN)
- BSC simulation (Gb over IP)
- HLR(AuC) functions (SIGTRAN)
- Optional EIR simulation (SIGTRAN)
- Traffic Server module on the Gi interface

Simulated scenarios:

- Subscriber mobility simulation between BSC-BSC, RNC-RNC and BSC-RNC
- Simulating of hundreds of thousands of users at the same time
- Over 70% utilization on each interface
- User and traffic parameters are easy to specify: user data packet size, uplink/downlink traffic volume ratio, QoS parameters
- User profiles: uplink/downlink traffic volume and distribution among different traffic profiles
- Simulation of TCP and UDP traffic
- Mobility control and session layer management

Hardware components

- Test equipment is an industrial PC with multiple network interfaces
- Option for replacing off-the-shelf network interfaces with AITIA's high performance dedicated SGA-GPLANAR (1 Gbps) or SGA-10GED (10 Gbps) network interface cards
- Separated interfaces for control and user data traffic

AITIA Telecommunications References

.. T .. Mobile



NOKIA

ERICSSON



AITIA International, Inc.

Czetz J. utca 48-50., H-1039 Budapest, Hungary

Tel.: +36 30 397-8303, +36 1 453-8080 Fax: +36 1 453-8081

E-mail: sga@aitia.ai

sga.aitia.ai