

SGA-WT

WorldTrip Tester for Outbound Roaming

Checking Outbound Roaming Performance

The SGA-WorldTrip Tester (SGA-WT) allows operators to test their subscribers' connection capabilities all over the world, with a single tool residing in their own local network.

The ultimate aim of our WorldTrip Tester is to check whether the subscribers trying to attach to a foreign (visited) network would actually get accepted there. Furthermore, SGA-WT can also check if calls initiated towards these outbound roamers can actually get through. Such tests usually require hardware probes with SIM cards placed all over the world, but the SGA-WorldTrip Tester provides similar results – from one central site.



Roaming All Around the World, Several Times a Day

Instead of the traditional outbound roaming tests – where active hardware probes are distributed all over the world –, the SGA-WorldTrip Tester requires only one piece of equipment, connected to the SS7 network. Similarly to other SGA family members, SGA-WT consists of an industrial grade PC with an SS7 interface card and a powerful software implementing the tester logic.

The testing equipment implements various functionalities during an outbound roaming test. At the first stage it simulates a foreign VLR to make the HLR believe that the subscriber is roaming. At the second stage it simulates a call initiator MSC/VLR, which allows a call-through test. Both phases of the test require standard involvement from the foreign network. This means that the MAP SendRoutingInformation sessions and the ISUP call initiation dialog results provide real information about the outbound roaming performance.

Configuration and Reporting

The configuration possibilities and the output reports are similar to other members of the SGA Roaming Tester Family – refer to the SGA-CLI Tester developed for the inbound roaming case. During the call setup procedure, the SGA-WorldTrip Tester evaluates measured intermessage-times, and standard parameters of the received ISUP and MAP messages. Based on these values it determines the call's success. Reject causes and possible timeouts are logged in the generated output reports.



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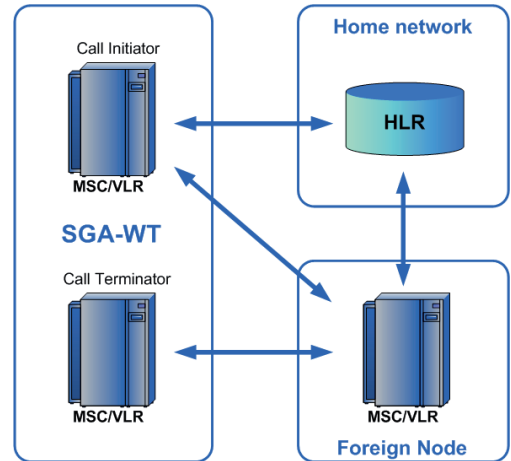
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Attaching Abroad

During the tests we simulate your virtual subscriber roaming in various foreign networks. The tests are run periodically for each (foreign) network, whose VLR/MSC addresses are listed to be tested by SGA-WT.

The reason why these tests can work is that the equipment can send an UpdateLocation in the name of the foreign VLR to the local HLR, making it believe that the SIM is abroad, and then SGA-WT works as a call-initiator MSC. The test process is briefly summarized in the diagram.



A Return Run Through Thousands of Miles

The next stage is a through-connection test, where the "attached" IMSI is supposed to receive a call – initiated by SGA-WT. The MSISDN of this IMSI must be diverted to another MSISDN number. This forwarding must be set up in the HLR, and at this stage, it will also be known by the foreign VLR. The forwarded number actually "resides" in the testing equipment as well. If the scenario is set up properly, then the call initiated by SGA-WT must reach the foreign MSC/VLR, where it will end in "MS not reachable" and will be forwarded back to the call terminator part of SGA-WT in turn. When this loop is up (or when timeout occurs), the tester releases the call.

AITIA Telecommunications References



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