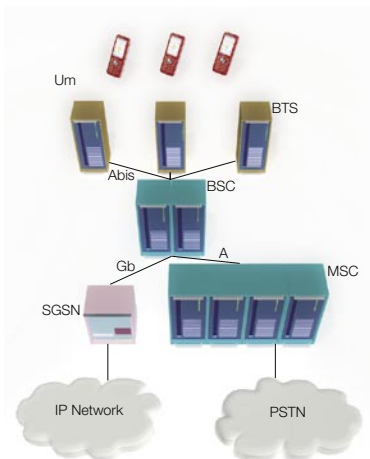
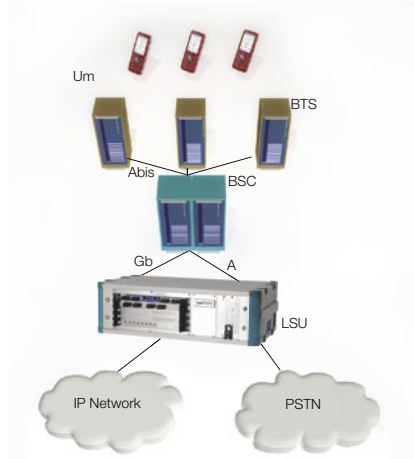


MSC-SGSN simulator

Load & Stress testing and monitoring on A and Gb network interfaces



Real system



Simulated environment

A complete Core Network available in one product

Functional and Load&Stress testing of radio access network elements always require the set up a complex test environment such as a Core Network. Even basic functional testing such as performing a mobile call or sending SMS requires the availability of an MSC for circuit switched traffic. Mobile data traffic tests also need at least one SGSN properly configured.

The solution provided by Prisma dramatically reduces the complexity of setting up a test environment for the Access Network. This emulated Core Network is also completely re-configurable within minutes.

Completely emulate GSM/UMTS Core Network for packet/circuit traffic

This unrivaled complete simulator from Prisma Engineering can operate concurrently both as an MSC and as a SGSN. On the Gb interface this solution simulates the SGSN equipment, the GGSN equipment and an IP network, in order to terminate the data traffic generated by user equipment on a mobile network. On the A interface the simulator acts as MSC (or MSS/MGW) managing the user and control-plane for circuit switched traffic. It supports connections to multiple BSSs and can be used with real mobiles or in conjunction with a simulator on the Abis interface. Additional software modules are available to extend the emulation of other network elements such as HLR, AUC, EIR and VAS platforms, as well as specific interfaces managing the interconnection towards PSTN and the Internet.

Easily configurable

The MSC/SGSN simulator runs on PRISMA's multi-user, high-capacity LSU test platform. The complexity inherent in A and Gb interface testing simply disappears when using the Test Manager GUI. Moreover, the system is easily configurable and highly flexible in use, and controllable from the command line. Open API Integration also enables integration in an existing test environment.

Rich set of interfaces

A full set of interface types is supported, including E1/T1, STM-1 SDH (channelized) and E1 over IP with the CESoP interface and Gigabit Ethernet.

Complete SS7 protocol support

The MSC module fully features SS7 implementation according to Q.7xx ITU and T1.111-T1.112 ANSI. M3UA and M2UA protocol stacks are also available to support SS7 signalling over IP networks.

Complete Gb protocol stack

The Gb module operates according to ITU, IETF and 3GPP Release 5, it supports Gb Over Frame Relay or IP (Ethernet) and a configurable geometry of connection parameters (i.e. PVC number and rate, UDP ports, etc.). Furthermore, several specific advanced features developed by Prisma support additional test functions to measure the QoS of data services in full detail.

Multi-user environment

All Prisma Engineering products offer Multi-tasking, multi-user, multi-applications and client/server approach for all functions. This approach maximizes the return of the investment and allows an optimal resource sharing between different testing groups even when they are located far apart.

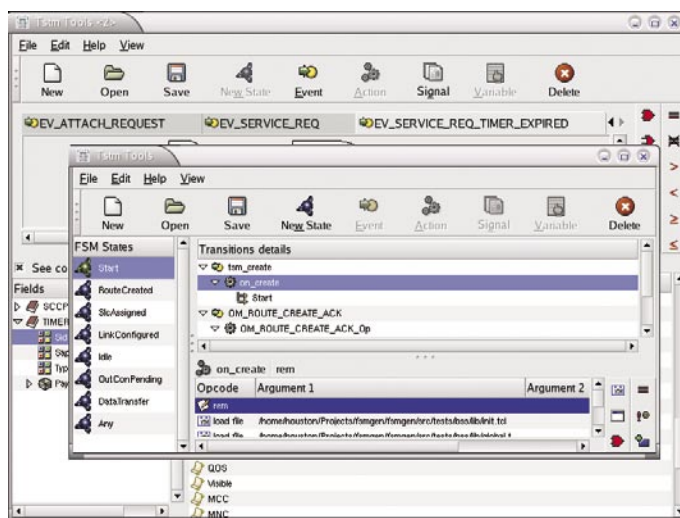
All the links and fractional links connected to an LSU can be shared among multiple users and test beds.

Test Manager for A/Gb Interface

- Simple and powerful scripting environment based on TCL programming language and extended with dedicated primitives for controlling the protocol stack
- Encoding/Decoding functions allow to handle messages and information elements with symbolic names aligned to the specs
- Clean structure using independent script layers
- Database with easy interworking with other tools
- A GUI controls activation and modification of the simulation scenarios and presents statistics of simulation results
- Open Interface toward external tools

MSC / SGSN features at a glance

- MSC/Network simulation on the A interface
- SGSN/Network simulation on the Gb interface
- It supports connection to multiple BSCs as
 - ◆ Separate test beds for independent working groups
 - ◆ Consistent management of external handover procedures
- Operation with real mobiles or in combination with simulators on the Abis interface
- Speech channels routing via the switch matrix
- Forwarding of IP traffic to LAN
- Implementation aligned to Release 5



MSC-SGSN simulator test manager GUI

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