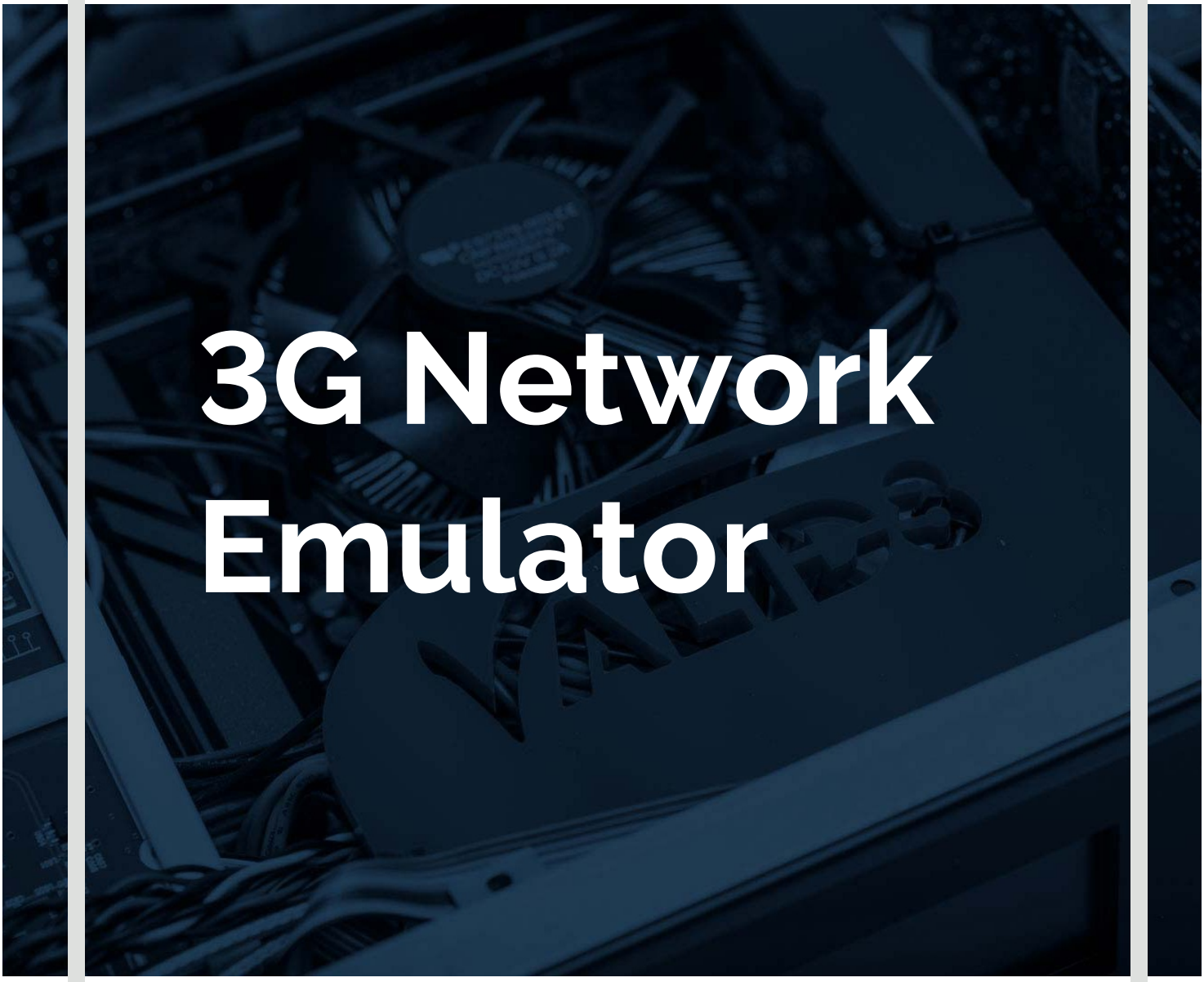
VALID8.com

Flexible. Affordable. **That's Different.**



3G Network Emulator

Simulates UMTS NodeB, SGSN, GGSN, MSC, HSS/HLR, VLR. Test Core Network Devices with Realistic Traffic.

3G Network Emulator

OVERVIEW

The Valid8 3G Network Emulator provides an all-in-one, cost-effective and ultra-portable 3G network for demonstration, testing and training purposes.

WHAT IT CAN DO FOR YOU

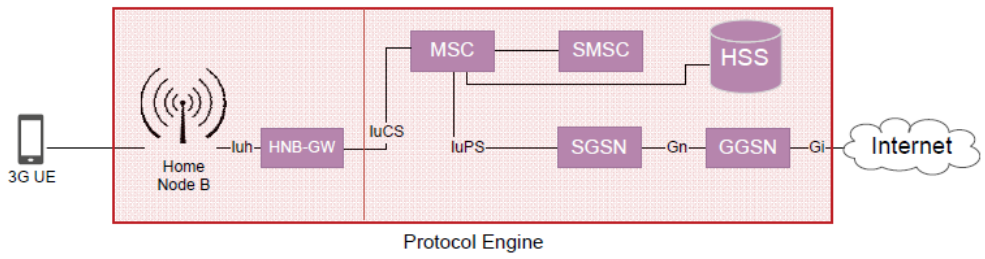
The Valid8 3G Network Emulator is a comprehensive solution for 3G UMTS network emulation and load testing. It enables testing of the Iuh inferface towards the HNB Gateway and the IuCS and IuPS interfaces towards the RNC/HNB Gateway. Options are available to include real or simulated HNBs. The Valid8 3G Network Emulator is capable of simulating and testing several devices individually or in parallel and is scalable to fit your needs. It enables testing of the A interface and the Gb interface over IP towards the BSC. It simulates HNB, HNB-GW, MSC, SGSN, GGSN, HSS/HLR - IuCS, IuPS.

WHY IT'S DIFFERENT

- Software based solution can be run on high-end customer hardware/VM to achieve better performance, or in the Cloud (e.g. Amazon AWS) for maximum versatility
- Web-based Graphical User Interface provides customer with intuitive, easy access via browser
- API's used (REST, HTTP) enable automated testing using test tools.
- Emulated nodes behave exactly as true real nodes, due to Finite State Machine architecture
- Testing is scalable across multiple cores and multiple systems

FEATURES

- BSSMAP request/response messages for call handling, mobility management
- Mobile calling - MTC and MOC
- Flexible, configurable dial-plan - options to page other mobiles, simulate PSTN terminated call and play reference media files, or media echo
- SMS - outbound and inbound
- Runs over SIGTRAN/SCTP
- Generate valid and invalid/negative messages and call-scenarios
- Supports sending invalid responses including malformed, dropped and misordered packets
- Alerts and notifications
- Check parameters in messages from SUT and flag errros
- Realistic network emulation of up to 1,000s of devices and calls (scalable)
- RANAP request/response messages for call handling, mobility management
- Report on media received, call connect time, call duration, jitter, packet loss
- PS connection to internet
- MMS - mobile delivery
- 3G/4G handover option
- Generate valid and invalid/negative messages and call-scenarios
- Supports sending invalid responses including malformed, dropped and misordered packets



SUBSYSTEMS

The Valid8 2G Network Emulator is compromised of multiple subsystems that are available individually or in parallel, and are scalable to fit your needs. The individual emulators are controllable through their call controllers, and the traffic can be captured through use of a remote capture tool such as Wireshark.

- MSC
- VLR/HLR
- SGSN
- GGSN

KPIs

- Call Attempts
- Call Successes
- Call Failures
- Location Update Attempts
- Location Update Successes
- Location Update Failures
- Calls per second (CPS)
- Call setup time
- Call tear down time
- Media Tx Packets (audio)
- Media Rx Packets (audio)

Configurable Parameters

- Call session length
- Concurrent calls/endpoints
- BHCA/CPS

AUTOMATION API

User commands can be fully automated using HTTP API. This includes performing all test control functions as well as collecting results and metrics.

SCRIPTING

The application's subsystems can be edited directly in the browser using Javascript or by using the graphical tools seen below. The Message Workshop allows for creating of test scenarios directly from the hex stream of a remote capture, while the Graphical Editor allows for creating customized call scenarios by dragging and dropping the call flow to meet your test needs.

USE CASES

No items found.

SUMMARY OF SPECIFICATIONS

The Valid8 3G Network Emulator is capable of simulating and testing several devices individually or in parallel and is scalable to fit your needs.

SPECIFICATIONS

Protocols	3GPP TS 08.08, 3GPP TS 48.008 -- BSSMAP / DTAP 3GPP TS 04.08 -- MM / CC 3GPP TS 04.18 -- RR 3GPP TS 03.40, 3GPP TS 04.11 -- SMS 3GPP TS 25.413 v9.5.1 - UTRAN Iu interface Radio Access Network 3GPP TS 25.468 - UTRAN Iuh Interface RANAP User Adaptation (RUA) 3GPP TS 29.272 (S6a) 3GPP TS 29.002 - MAP signalling (Gr) IETF RFC3550 - RTP / RTCP IETF RFC 4666 - M3UA IETF RFC 4960 - SCTP IETF RFC3588 - Diameter Application Part (RANAP) signalling ETSI TS 100 940 - Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification ETSI TS 124 008 - Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Mobile radio interface Layer 3 specification ITU-T Q.773 - TCAP ITU-T Q.711-714 - SCCP
Network Layer Capabilities and Security	IPv4, IPv6 (on request) UDP, TCP, SCTP transport modes DNS DHCP TLS 1.2, 1.1, 1.0 SSL 3.0 SRTP Network delays and packet loss
Test Scripts	CS MO call CS MT call CS MO-MT call Outgoing SMS Incoming SMS PS Paging PS Session to Internet
SGSN	Packet Routing and Transfer Functions IP Address Allocation Interface Gb to BSC Interface Gn to GGSN
GGSN	Packet Routing and Transfer Functions IP Address Allocation Interface Gn to SGSN Interface Gi to external PDN
Counters	Call Attempts Call Successes Call Failures Location Update Attempts Location Update Successes Location Update Failures
Measurements	Calls per second (CPS) Call setup time Call tear down time Media Tx Packets (audio) Media Rx Packets (audio)
Quality Testing	Voice Quality Analysis QoE

PRODUCT DETAILS

Hardware	Intel-based; scalable to meet performance needs
Options	Base Kit - 3G Network Emulator
Operating System	Protocol Engine (Linux-based)
User Interface	Browser-based, touch-optimized graphical user interface
Automation	HTTP API
Hardware Dimensions	M1: 4.5" x 4.5" x 1.75" M3: 19" x 15.75" x 3.5"
Power Supply	M3: 520W AC to DC, 100-240v