Global Xpress Link Emulator

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Network specific and off-air verification of applications.

The Global Xpress Link Emulator (GLE) enables you to verify Global Xpress applications' performance at all times, in all places, in any scenario – without use of a Global Xpress terminal or airtime.

The tool offers a user-friendly network sandbox environment and facilitates exchange of IP data via an emulated Global Xpress connection providing Global Xpress specific emulation of service plans, bandwidth and latency. This allows you to test more efficiently and at a lower cost, compared to on-air test, as you can set up and reproduce the exact network conditions you want to test as many times as you need. Due to the closed test environment the risk of exposure on the live Global Xpress network is also eliminated.

The Global Xpress Link Emulator enables test and demonstration of Global Xpress applications on the bench. The tool provides you with complete control of your testing - in an environment with realistic Global Xpress network characteristics.
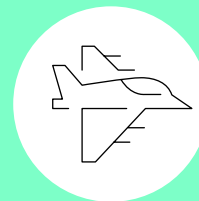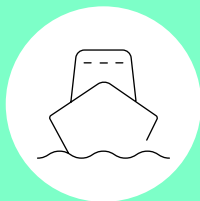
TEST TERMINALS FOR LAND, MARITIME AND AVIATION
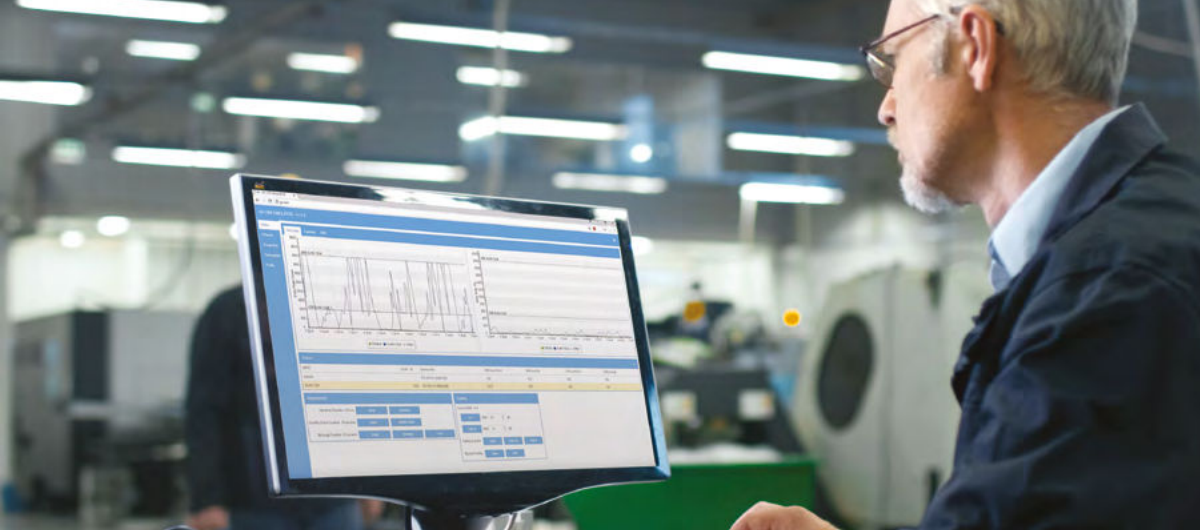
Benefits

- The Global Xpress network and terminal 'in a box'

- Network specific application testing

- Ideal for indoor demo and test of applications

- Avoid exposure on the live network

- Test and document performance of applications

- Assure quality in any network scenario (eg. signal degradation, traffic shaping, queing, QoS, congestion)
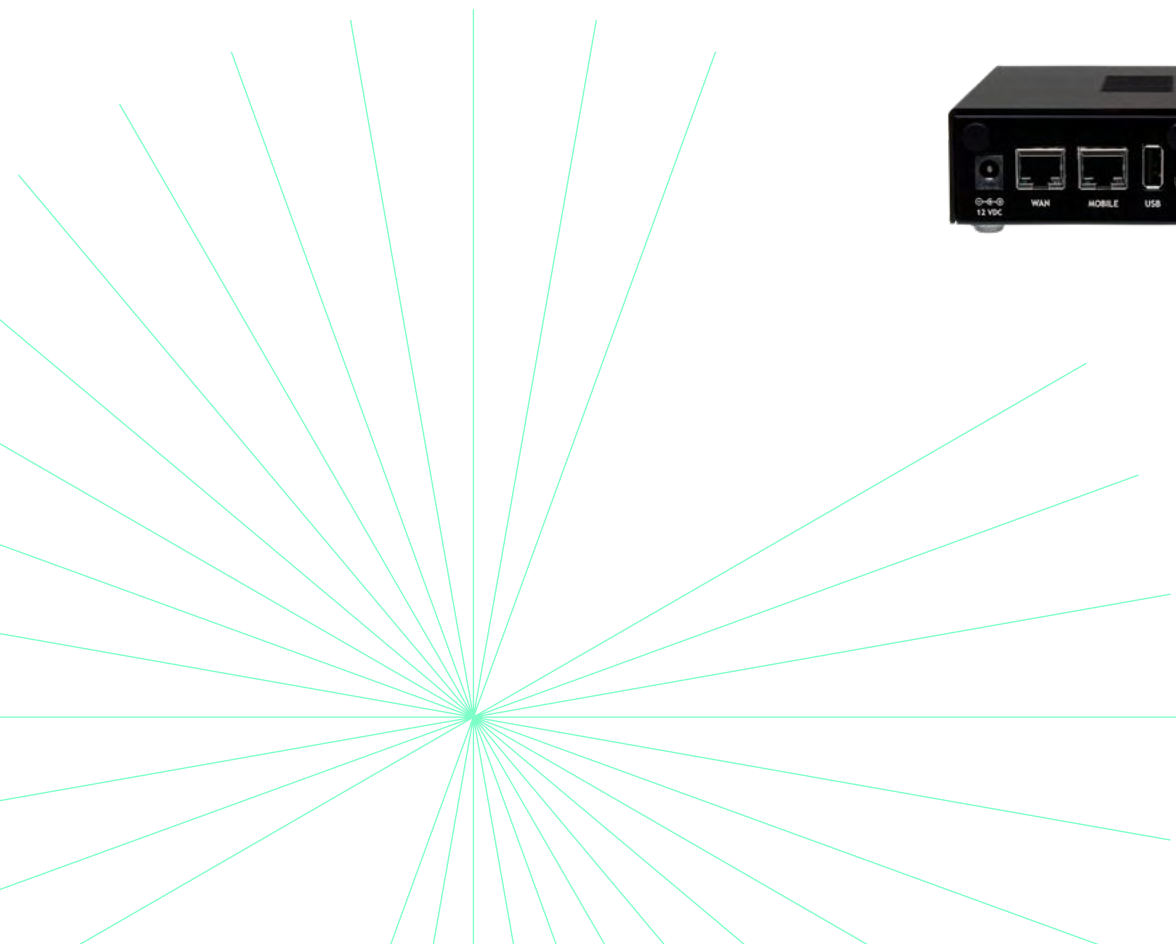
Use cases

Congestion

A satellite link is shared with other users, which makes it a variable in a test scenario. A connecting user may strike gold and have a channel all to himself but can also end up in a network that is congested and only get a fraction of the expected bandwidth. Varying levels of congestion is therefore something you need to test to make sure that your application provides a useful response in any level of congestion.
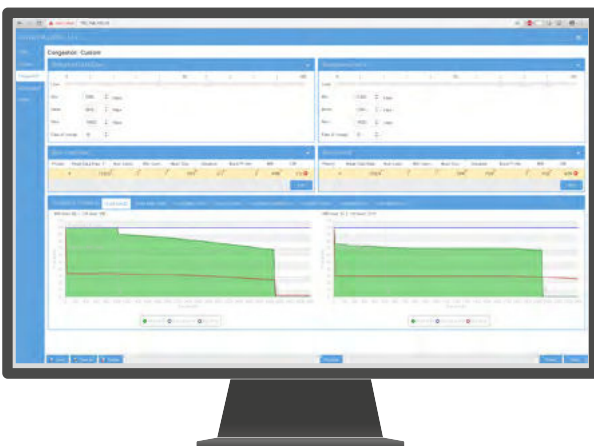
Service Plans

The GLE allows you to work with multiple service plans (SSPCs) and Simulated Virtual Networks (SVNs). You can work with just one service plan at the time or combine and prioritize them as needed. Furthermore, you can prioritize queues within the different service plans. The GLE incorporates all the service plans from Inmarsat from all business units. You can also create your own service plan, where you can customize the settings of any variable: Maximum/Committed Information Rate (MIR/CIR), bandwidth, latency etc.

Signal Degradation (Channel Parameters)

On the live network, you will undoubtedly encounter varying QoS. Factors such as weather fade, terrain or less than optimal equipment may lead to latency, jitters, outburst or just a generally low bandwidth. Applications must be designed to cope with these many variable factors and still produce a useful response to the user. The GLE allows you to test scenarios with different levels of signal degradation.

THE GLE ALLOWS YOU TO TEST ANY NETWORK SCENARIO, E.G. DIFFERENT LEVELS OF CONGESTION. THE EFFECT ON THE BANDWIDTH IS THEN SHOWN AS GRAPHS.
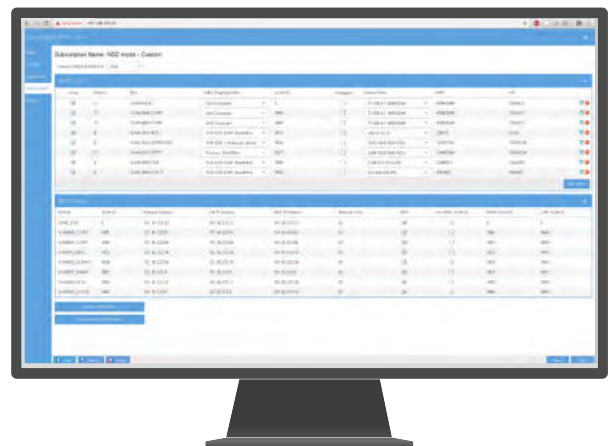
THE GLE ALLOWS YOU TO WORK WITH MULTIPLE SERVICE PLANS (SSPCS) AND SIMULATED VIRTUAL NETWORKS (SVNS). YOU CAN WORK WITH JUST ONE SERVICE PLAN AT THE TIME OR COMBINE AND PRIORITIZE THEM AS NEEDED.

Technical description

The GLE is a one box solution that replaces terminal, satellite link and ground station. All you need to set up a test or demonstration of your Global Xpress applications: the GLE, a laptop to run the Global Xpress application, an Internet connection and cables to connect.
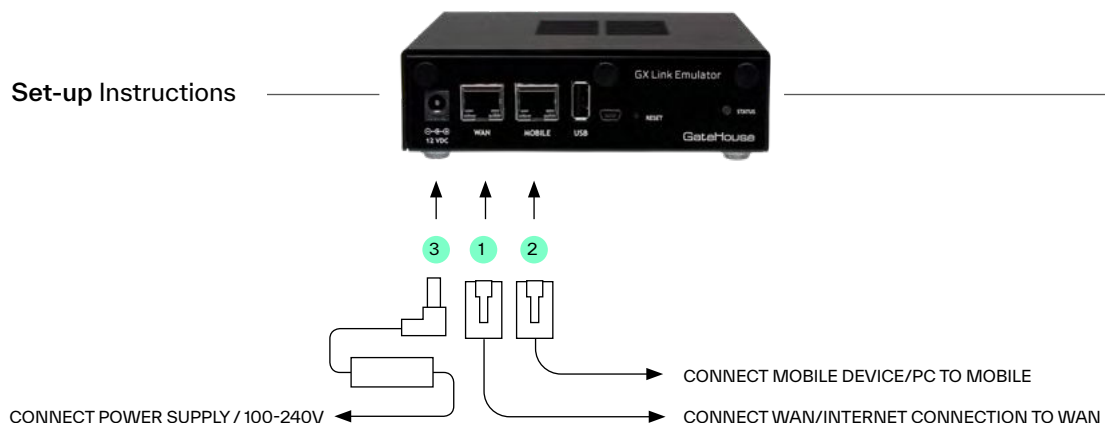
The GLE enables application testing and verification, on an emulated Global Xpress link, as if the user is connected via the live Global Xpress network. You configure the GLE through a web server, embedded in the GLE

hardware unit. The web user interface allows the user to set up a range of real-life scenarios such as network congestion and bandwidth degradation. The application's performance and throughput is presented as visual graphs and counters.

Global Xpress Link Emulator Set-up

| CLIENT (APPLICATION) | GLOBAL XPRESS IP LINK EMULATION | GLOBAL XPRESS LINK EMULATOR | INTERNET | SERVER |

Set-up Instructions

3 1 2

CONNECT POWER SUPPLY / 100-240V

CONNECT MOBILE DEVICE/PC TO MOBILE

CONNECT WAN/INTERNET CONNECTION TO WAN

Features

Included Features

Global Xpress Link Emulator
Global Xpress Link Emulator including basic functionality:

- Inmarsat GX Service Plan bandwidth emulation (MIR/CIR)
- Custom service plans (MIR/CIR)
- Realistic IP packet delay (latency)
- Realistic GX Traffic Shaping model (queuing, priority, QoS)
- Signal degradation (weather fade, blockage, etc.)
- Traffic monitoring and profiling (graphs and counters)
- Web browser user interface
- Full service model support (multiple SSPC/SVN/VLAN)
- TCP Acceleration (TCP-PEP)
- Multicast Support
- Save and Load Profiles

Optional Features

SNR Managed Bandwidth

- Fading emulation (random + weather)
- Skew

Network Service Device (NSD) Support

- NSD interface
- Fallback

Handover Emulation

- Satellite switch
- Beam handover
- Blockage

Simple Network Management Protocol (SNMP) Support

- The GLE simulates the SNMP of the GX terminal
- Allows full control of the MIBs and the parameters returned

Open API Support

- Allows full control of the GLE for automatic tests
- Retrieve detailed statistics of data transferred on the simulated connections

You Get

- Global Xpress Link Emulator
- Remote software updates
- Training, installation, support (optional)

You Already Have

- Router
- PC for running the GLE application
- Tool for generating data:
  - Application/client + server/internet

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Let's unlock the power of satellite communications software