BGAN Application Tester
Product Sheet

Real life scenario testing of your BGAN application

GateHouse offers the BGAN Application Tester (BAT), a test tool which emulates a BGAN satellite connection and allows you to test your BGAN application as if you were on air.

The BAT emulates the I4 satellites and the ground stations, and allows you to connect a BGAN terminal and test your BGAN application via the BGAN terminal without needing an Inmarsat SIM card. BAT provides a graphical user interface designed to simplify BGAN application testing.

Fig.1. The BGAN Application Tester targets all Inmarsat segments : land, aeronautical and maritime.

Benefits

No airtime incurred
When using BAT all testing is free – unlimited test of your application.

Easy-to-use off-the-shelf product
BAT is optimized for intuitive usage via the graphical user interface. No special training required.

Test applications targeting all BGAN market segments
Land, maritime and aeronautical terminals.

Eliminate logistical challenges
Test on-the-move, on-the-spot.

Optimize your application for minimum airtime usage
Enables precise measurement of application airtime generation.

Reproducible test environment
Allows for a systematic test approach where the exact same conditions are repeated over and over.

Test rare network events
Ability to test your BGAN application against rare network events e.g. network congestion and signal drop-out

Highly efficient test execution.
Logs will show you exactly what went wrong and when.

Prove robustness of your application
Pre-defined automated test cases take the BGAN terminal through a number of typical scenarios, proving the application's robustness

It is all about achieving the most robust BGAN application, tested in extreme conditions to provide the highest value to end customers - no matter what - and to minimize aftersales support required.

BGAN Application Tester set up

Test USIM Card

PC **Ether net** **BGAN Terminal** **RF** **BGAN Application Tester** **Ether net** **Internet**
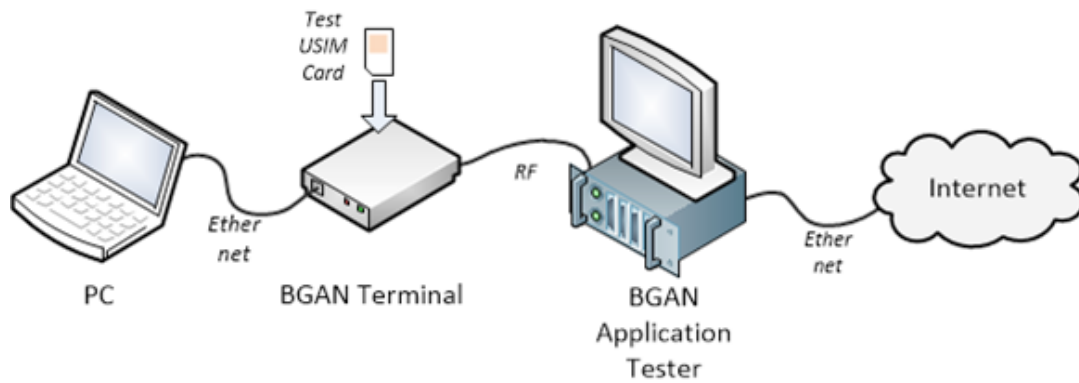
Technical description

The BAT is a one box solution to which a computer monitor, a keyboard and mouse are connected and allows the user to operate the BAT. The BAT is connected via coax RF cable to the BGAN terminal, and application level traffic is routed to an application server via a built-in LAN card (see the illustration above).

In the emulated environment, a BGAN application is able to connect to and operate the BGAN terminal as if it was connected to the real BGAN Network. The user interface can be used to simulate mobility and a wide range of real life scenarios such as signal fading and antenna blockage, which may affect the performance of the terminal as well as the total BGAN solution or application, when deployed in the field.

Usage scenarios

BAT can be used from the development phase, to the integration, approval, production, deployment as well as after sales phases of the BGAN application,
As a general purpose tool for BGAN end to end testing, the BAT usage scenarios are determined completely by the specifics of the application or solution under test. Some typical examples are:

Measure Airtime Consumption

The BGAN Application Tester enables the measurement of airtime comsumption. With a laptop running the application it is possible to measure accurately with the BAT, how much airtime is generated. This enables

the application provider to minimize the incurred cost of using the application and document this to potential customers.

Note that this exercise can be performed thoroughly, without generating any airtime charges at all.
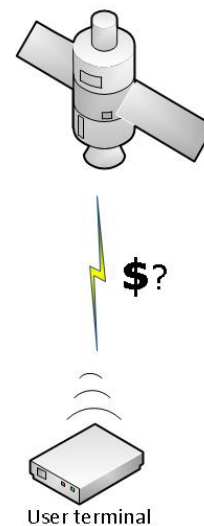

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User terminal

Fig.2. The BGAN Application Tester enables the measurement of airtime comsumption.

Test for Robustness #1: Mobility

BAT can be used to test and validate application operation in scenarios where the BGAN Terminal is mobile. This includes the aeronautical, maritime, and land-vehicular terminal classes and mobile versions of the Land Portable classes.

The position information is fed to the BGAN Terminal by the BAT. It is therefore possible to create any desired test track and make a virtual mobility test, where handovers between spotbeams and handovers between I4 satellites are accurately emulated.

The impact to the application can be established, without any cost that normally is incurred by flying, sailing or driving the BGAN terminal and application across spot beam and satellite boundaries.
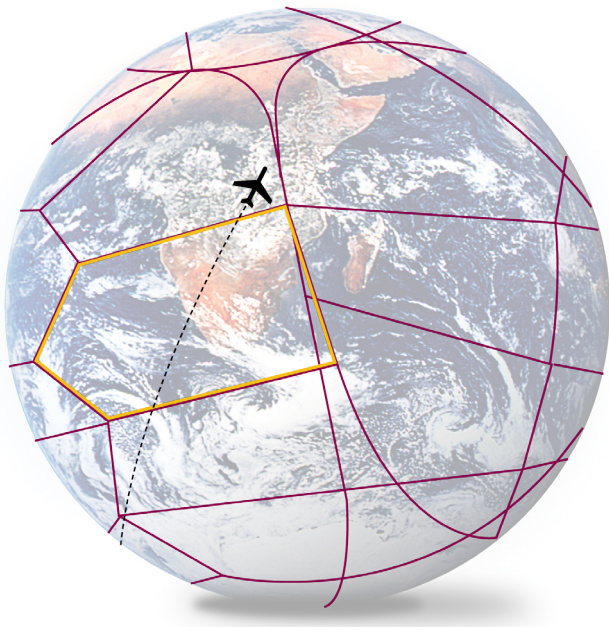

Fig.4. The BGAN Application Tester enables virtual mobility tests.

Test for Robustness #2: Congestion

The BAT enables testing an application in a congested satellite traffic environment. This is a useful feature to test that the application will give the user a satisfactory
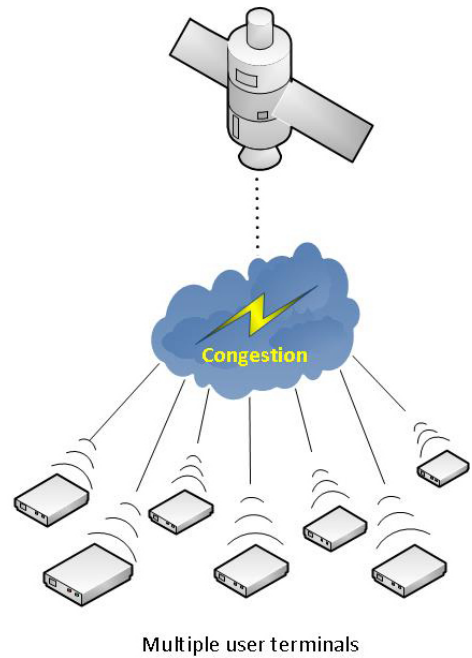

Multiple user terminals

Fig.3. The BGAN Application Tester is able to simulate a congested network

experience even when the BGAN terminal operates in a location with severe traffic load. Enabled through the BAT user interface, the BAT will simply introduce latency and reduced allocation of bandwidth (caused by the sharing of bandwidth between multiple users) on the satellite connection, similarly to what has been observed in loaded spotbeams on the real BGAN network.

Significant cost is saved compared to the travel cost and time involved to establish a test setup in a loaded spotbeam which may be thousands of kilometres away.

BGAN Application Tester - Main Features

IP Traffic with Quality of Service (QoS) Profiles
Support of all QoS profiles available in the BGAN Network (Background and Streaming connections).

SMS
Send and Receive 160 character SMS messages through the BAT user interface.

Status Indications
The BGAN terminal status is continuously shown e.g. registered, attached etc.

Airtime Traffic Metering
The BAT keeps track of the number of bytes exchanged over the air.

Reject/Ignore Scenarios
Program the BAT to reject or ignore certain BGAN Network procedures e.g. attach and reject, in order to test that the application returns a meaningful response to the user.

BGAN services supported
BGAN, SwiftBroadband and FleetBroadband (all BGAN classes: 1,2,3,6,7,8,9,10,11,14,15).

Low/High Data Rate
The latest advanced BGAN features for LDR and HDR are supported.

Mobility
Create any desired test track and make a virtual mobility test, where handovers between spotbeams and handovers between I4 satellites are accurately emulated.

Congestion
Test the behaviour of the application in a congested satellite environment.

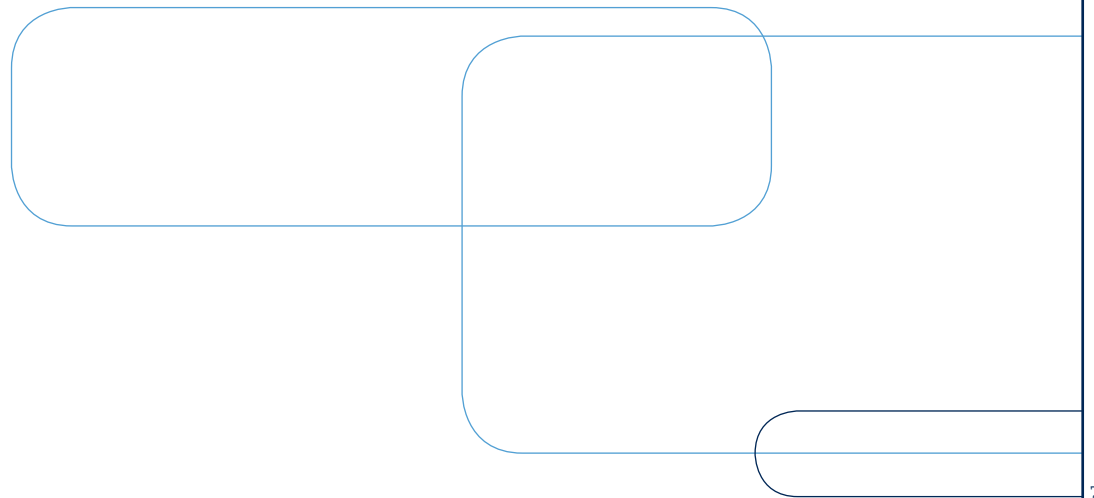### BAT Software Updates over Internet
It is possible to update the BAT software via an internet connection using the BAT user interface.

References
GateHouse provides a BGAN test tool tailored to the terminal development process. Currently, this test product is adding value to Inmarsat and the majority of BGAN terminal manufacturers in the market.

More information?
If you would like more information please contact GateHouse at sales@gatehouse.dk.

Version 1

GateHouse