A mature and proven protocol stack lets you focus on **creating value for your customers** where it matters the most.

The Broadband Global Area Network (BGAN) Protocol Stack (BPS) is a high-quality, extremely reliable and mature product. The product is a ‘must’ for any new development of a BGAN user terminal. As an already proven product, it significantly reduces your cost and risk when developing a BGAN terminal. Using the mature BPS will release resources to focus on the important features targeting your customers’ needs and hereby ensure your differentiation in the market.

**Full Compliance and Thorough Testing**
The BPS is a core component in the Inmarsat User Terminal Reference Stack which guarantees that the BPS is compliant to Inmarsat System Definition Manuals (SDM). The BPS is thoroughly tested using Inmarsat Mandatory Test Requirements (MTR) and over-air by BGAN satellite. Further, exhaustive testing is also done with GateHouse Telecom’s own automatic test suite which has been refined over many years. It is possible to integrate BPS with any physical layer, whether developed by the customer or offered by GateHouse Telecom. In addition to BPS we have several useful optional accessories available, e.g. BGAN Network Emulator (BNE), Test Cast Manager Controller (TCMC), or Physical Layer Simulator (Physim).

**Customer Projects**
The re-usability, portability and testability of BPS are ensured through several different customer implementations. The BPS is used in the following projects:

**UT Reference Stack for Inmarsat**
GateHouse Telecom supplied the complete BGAN protocol stack (including the UMTS NAS) as a reference implementation used to validate Inmarsat MTR scripts and associated type approval equipment.

**Software Core Module for BGAN User Terminal Manufacturers (disclosable):**
- Hughes Network Systems
- DSpace
- Addvalue Technologies
- ComSine
- Japan Radio Co.
- EMS SATCOM UK (Honeywell)
- Thales

**Technical Information**
The BGAN Protocol Stack is a combined UMTS Non-Access Stratum stack (incl. PDCP) on top of the proprietary Inmarsat Access Stratum. Together with physical layer software and application layer it forms the required software for a BGAN UT.

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**User Terminal**

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The UMTS module consists of:
• Connection Management
• Mobility Management
• Radio Access Bearer Manager
• Packet Data Convergence Protocol (currently including FC2507)

The IAI-2 module consists of:
• Adaptation Layer
• Bearer Connection Layer
• Bearer Control Layer
• CS User Plane Handler

The UMTS and IAI-2 modules are fully integrated with several external interfaces:
• Antenna Pointing
• Ciphering
• CS User Plane
• ETSI (Layer 3 SAPs)
• GPS / navigation
• HAL
• Kernel/Platform
• Trace/Debug
• USIM

External interfaces are well-defined, which ensures that the porting effort into a new user terminal is minimal. Please contact us for more details on BPS platform requirements.

**User Terminal Project**
At GateHouse, every licensing of BPS is unique and can be tailored fully to a customer’s needs. All BPS functionality is covered by the product license. A BPS customer project can cover a broad range of services:

**Product license**
GateHouse Telecom will release BPS Documentation and Product Package.

**Product license and porting**
GateHouse Telecom will further ensure that BPS can build and run at the platform. This will be shown by passing some MTR tests with simulated interfaces.

**Full integration**
GateHouse Telecom has full responsibility for L2 and up, including integration of external interfaces.

**Full UT**
GateHouse Telecom takes full responsibility for terminal, including subcontractor handling, etc.

**We Lead You Every Step of The Way**
When a project is started, GateHouse Telecom allocates a Project Manager as the primary point of contact to the customer. The Project Manager ensures that the qualities of releases are as agreed. The initial release is a Document Package containing Architectural Design Document, all Interface Control Documents, etc. The next release contains binary libraries or source code for BPS depending on the license type. The following releases will typical be maintenance releases, which for example can include SDM updates. During a project a development support agreement is in place, which covers all maintenance releases, questions, etc. When the User Terminal has passed Inmarsat Final Type Approval (FTA) the development support is replaced by a support agreement.

**Guaranteed Future-Proof**
When Inmarsat expands the BGAN system with new terminal classes and features, these are also expected to be supported, so the future of your terminal is secured.

**Pricing and Support**
Financial models are offered as flexible solutions based on customer needs and with different licensing and royalty opportunities. Support and maintenance agreements are offered, including all Inmarsat Change Notes and GateHouse Telecom software corrections and updates on the BGAN Protocol Stack. Agreements are made for the first three years and may be extended up to a total of ten years.

Please contact us for further information.
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**Have any questions?**
Don’t hesitate to contact us at sales@gatehouse.dk