BGAN

Broadband Global Area Network

For U.S. government land expeditionary operations

Viasat™

Simultaneous voice and data worldwide via portable satellite terminals

Global conflicts and disasters do not sit still. Ground-based troops must stand prepared to instantly deploy to a new region – and they need high-performing voice, data and video that 'moves' with them with ease of use in a small, lightweight and affordable terminals.

Expeditionary military, homeland security, civilian and first responders throughout the world depend upon applications which consume massive volumes of data for 'on-the-move' and 'on-the-pause' mobile communications. Through Viasat's proven, highly reliable mobile, global satellite communications, they take advantage of data, voice and video capabilities that are flexible and cost-effective, wherever and whenever they need them. No matter where they operate – whether a commander leading a mission; a federal or state official responding to a local emergency; or a head of state

conducting international affairs – BGAN users seek highly available connectivity for reliable access to the information and services essential for mission success.

Specifically, they benefit from the following key, distinct qualities of BGAN:

Affordable, lightweight design

No bigger than a laptop, BGAN readily translates to any 'grab and go' situation. As opposed to fixed satellite systems, BGAN never slows down operations as teams move from one part of a world to another. Due to its compact size, BGAN saves a great deal of much needed space in transport vehicles, which are typically heavily packed with food, medical supplies, weapons and other cargo.

Mobility

Fixed satellite systems take longer to assemble and tear down before and

after migrations. BGAN terminals are compact, portable, and there is no assembly. Users can immediately set up and have assured connectivity regardless of location.

Ease of use, point and play

With BGAN, users connect within minutes. No dealing with complicated files and frequency settings, typical for fixed satellite systems. No technical expertise or training is required. The terminals are plug and play. All of this results in more time to focus on the mission at hand.

Trusted partner

With a combined experience of over 75 years, Viasat has established a trusted relationship with the U.S. public sector, delivering mission-critical mobile satellite communication services to users world

wide.. Thanks to Viasat, users stay connected regardless of conditions. Supported by resilient satellites and redundant ground infrastructure, our suite of BGAN managed communication services – delivered by our skilled partners – empowers government users with seamless interoperability throughout an entire field of land expeditionary operations.

Superior performance

BGAN brings situational awareness and command and control down to dismounted users. Based upon 3G standards, BGAN allows for constant, simultaneous access to voice and high-speed data worldwide. Whether chosen as a flexible, stand-alone primary terminal; a fast, stable streaming service; or a complement to services available from government networks, BGAN ensures fast, cost-effective access to state-of-the-art IP data, while supporting core voice and legacy data services, such as integrated services for digital networks (ISDNs). Users can send and receive emails with large file attachments, comfortably run complex applications and make voice calls all at the same time – and do it in an affordable way.

Wide range of small, easy-to-use terminals

BGAN is accessible through a wide range of small, lightweight, ruggedized, quick and easy to setup satellite terminals with a simple and intuitive interface. BGAN operates globally in 'on the pause' static locations, as well as vehicles on the move. The smallest terminals start at about 3 lbs and are designed to support single users. The larger portable terminals offer WLAN capability and are particularly suitable for small teams looking to establish a field office for an extended period. In addition, they are appropriate for users requiring higher bandwidth to launch applications such as video transmission. All terminals are rigorously tested to our exacting standards so they're fully compatible with the BGAN network.

Applications

- Mobile or static operation from portable, vehicle or fixed terminals
- Email communications
- Remote access to the Internet or to agency Intranet
- Secure voice and data communications
- SMS and instant messaging
- Video conferencing

Unrivaled reliability

BGAN is designed specifically to deliver to government users the highest levels of network availability. BGAN services are made possible via the ELERA worldwide, end-to-end L-band network providing users with a stable platform that supports their mission-critical requirements now and in the future. The ELERA network is based entirely upon highly-resilient L-band links, which are unaffected by the rain fade. This technology allows constant, robust communications with overall network availability exceeding 99.9%.

Highest security standards

Our network infrastructure is built to the highest security standards, and BGAN supports high-assurance applications, including NSA Type-1 and NATO secret encryption systems. Our channel partners can provide remote mobile access to classified networks, subject to verification testing. Employs a dedicated cyber security team and supports use of additional security products such as virtual private networks (VPNs), ISDN and IP cryptos.

Interoperability

While the U.S. government and military operate their own satellite constellations to support communication needs, their users depend upon commercial satellite communications. Our highly flexible, seamless, end-to-end networks are designed for global mobility. Thus, they offer abundant capability and technical sophistication to complement MILSATCOM services in a rapidly changing security environment.

ELERA global coverage

Designed for mobility, BGAN has you covered, wherever your mission takes you, with a network that's owned and managed 24/7/365 solely by Viasat, the U.S. government's number one trusted provider of mobile satellite services. With BGAN, you are never out of touch. The service is accessible globally, except for the extreme polar regions.
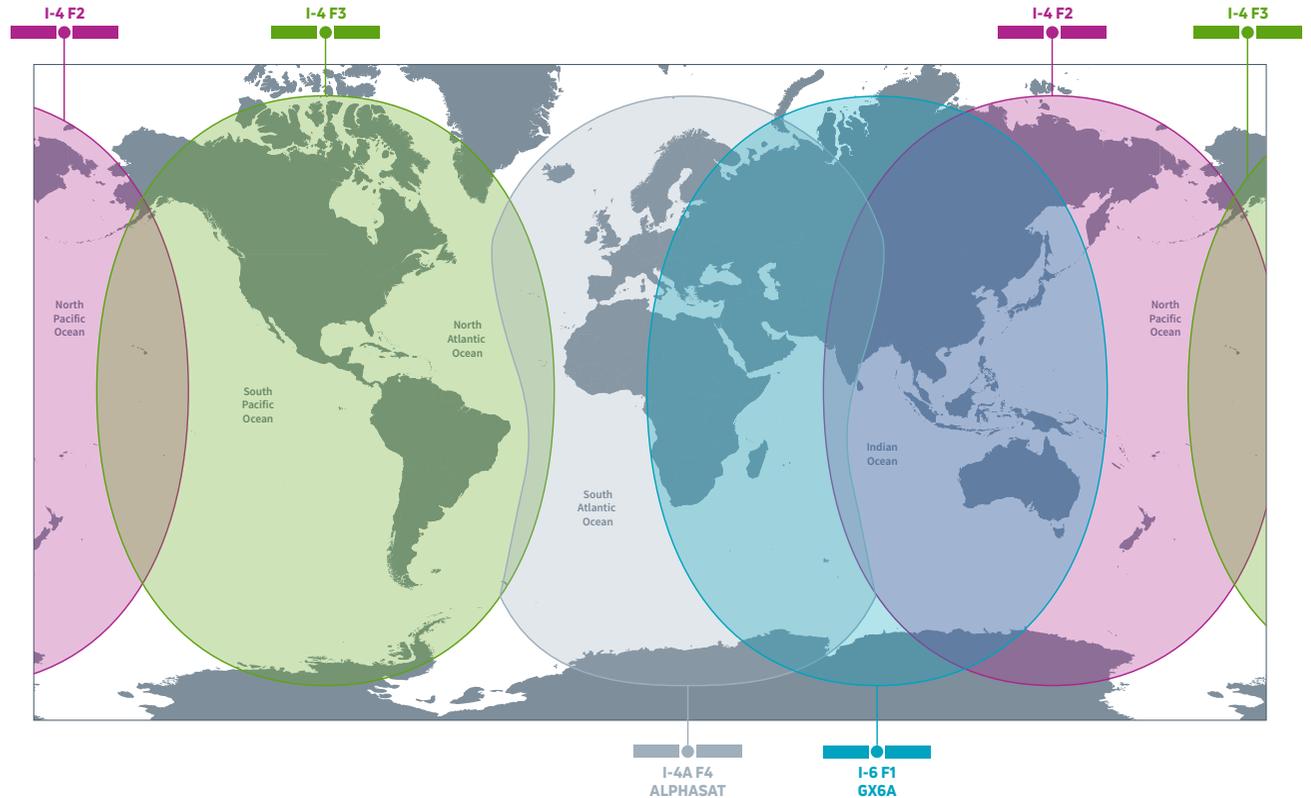
Delivering secure, reliable worldwide connectivity

Cost-effective

BGAN's high performance and flexibility doesn't come at a high price. Terminal costs are affordable and ample airtime pricing package options allow users to match the service precisely to their operational needs, ensuring that they always have cost-effective communications to carry out their mission, anywhere.

Total flexibility

BGAN supports the latest IP services, as well as circuit-switched voice and data for existing legacy applications. Government users can choose between a standard, contended IP service and a service providing a guaranteed data rate on demand – with the ability to select the rate according to their application. Various types of terminals are available, each of which offers a variety of performance capabilities through approved hardware. Whether users require a simple SCADA solution or reliable streaming of high-resolution full-motion video, there is a BGAN plan to meet their mission-critical requirement.

End-to-end solution

BGAN is built on ELERA unrivaled worldwide satellite and terrestrial infrastructure. We, together with our skilled partners, instill government users with total confidence that their communications will work at the exact moment needed.

System features

A single BGAN terminal enhances simultaneous voice and data up to 492 kbps, enabling users to access the Internet or send email, and talk on the phone at the same time. Our technology innovation offers extended bandwidth options.

Standard IP

BGAN enables email, Internet and Intranet access via a secure VPN connection, at speeds up to 492 kbps over a shared channel.

Streaming IP

BGAN supports guaranteed data on demand at rates in excess of 384 kbps. Specific data rates can be selected, depending on your application. A new BGAN HDR streaming service brings the fastest, non-contended data rates. With average bandwidth rates 600-700 kbps, and up to 1 Mbps by bonding two terminals together, this service is particularly well suited for high-quality video and imagery applications.

Assured access

Through assured access, users receive a guaranteed data rate within a defined geographic region that can be shared with more than one terminal.

Voice

With BGAN, users make voice calls at the same time as they access data applications. Voicemail is also available. Group 3 fax is supported via the voice channel.

ISDN

BGAN supports ISDN at 64 kbps for existing legacy applications.

Shared Corporate Allocation Plan

This plan allows users to share a chosen data package within a small or large group of terminals. It is ideal for departments and agencies that need a number of different terminals operating.

BGAN HDR

BGAN High Data Rate (HDR) services meet the U.S. government's demand for high data-rate streaming that is easy to use, establishing enhanced real-time situational awareness in the field.

The government's mobile forces require reliable, high-throughput satellite communications to support bandwidth-hungry applications – such as Intelligence, Surveillance and Reconnaissance (ISR), VoIP and video conferencing – and ensure mission success anywhere in the world.

BGAN HDR's markedly increased streaming rate is available in both symmetric and asymmetric options, producing a high-quality picture with a form factor that fits into a backpack.

Users benefit from the following key, distinct qualities of BGAN HDR:

- High throughput: users can expect to experience speeds of up to 800kbps,
- Bonding two terminals can achieve speeds over 1 Mbps
- Flexible: full or half channels with symmetric and asymmetric options
- Worldwide coverage: connectivity anytime, anywhere
- Easy to use: point-and-play terminals

Applications

- High-resolution video
- Local remote office
- Telemedicine
- Distance learning
- Disaster relief
- Humanitarian support

Use-case scenario

Today's government mobile users depend upon high-throughput streaming and standard IP services to receive and transmit large amounts of data. Specifically, operators who transmit high-resolution video or large images typically need significant throughput in the return direction – from the field to the HQ – to push data in real time, while facing less demanding requirements in the forward direction. They also seek equipment that is extremely portable and easy to use on a moment's notice, anywhere around the globe.

BGAN HDR responds by providing high throughput speeds of up to 800kbps. For even faster speeds, terminals can be bonded together, enabling connection speeds of over 1Mbps.

BSTA

BGAN Secure Terrestrial Access with private backhaul

Designed for remote government and military users, BGAN Secure Terrestrial Access (BSTA) delivers security and reliability for network communications, whether on land, sea or air.

Our BSTA solution provides users with end-to-end private and secure data network capabilities on a global basis. BSTA augments BGAN, SwiftBroadband and FleetBroadband with Viasat Government Sevice' privately owned, fully-redundant, secure Multi-protocol Label Switching (MPLS) backbone and transports sensitive information over classified and unclassified networks, corporate networks, other BGAN terminals and Viasat Government Services' VSAT locations, providing an end-to-end secure BGAN terrestrial transport solution.

BSTA elements are collocated at the Satellite Access Stations (SAS), enabling a completely private and secure network design, significantly reducing security vulnerabilities for our users. As a private network, BSTA offers the security and global capabilities that the U.S. government requires. BSTA's enhanced security measures protect mission-critical and business-essential traffic.

With BSTA, land, maritime and aero users benefit from the highest level of reliability, quality of service, security and support - unmatched in the mobile satellite services industry.

Our state-of-the-art MPLS network's surveillance and proactive management are backed 24/7 by a highly skilled, certified and responsive team of security-cleared professionals in Viasat Government Services' U.S.-based Network Operation Center (NOC).

Add our industry-leading support to the low cost of acquisition, and it's clear why BSTA solution is the smart choice for your agency's global mission-critical communications.

Features

- Enhanced network security
- Decreased denial of service vulnerabilities
- Controlled routing and reduced latency
- Mission Assurance Category III qualified for Point of Presence diversity, availability and redundancy
- Collocation at SAS
- Reduced Operational Security (OPSEC) exposure
- U.S.-owned and operated private network
- All operations and support personnel possess U.S. Department of Defense security clearances
- Private access point—all traffic travels on a secure network, never touching the public Internet
- Single point of contact for BGAN service and terminal support
- Information Assurance

Low-Profile BGAN

Unmanned, concealed satellite terminals

Low-profile BGAN supplies the high-speed IP communications needed to make electronic surveillance and intelligence a powerful force multiplier.

The U. S. Homeland Security, Border Security, Intelligence Community and Department of Defense's missions require collection of real-time intelligence on a 24-hour basis. Moreover, it needs to be done in a cost-effective manner, and without exposing government personnel to unnecessary risks.

A wide range of high-performance, unattended electronic systems is now widely available to meet this need. These include electro-optical, radar, acoustic and seismic sensor suites. All these systems depend, however, on access to IP data communications.

In covert or discreet applications, the equipment which delivers these communication needs to be capable of being hidden and must be remotely operable, with good battery life.

Viasat and Hughes have jointly developed a solution to this requirement. The Low-profile BGAN communication system is provided in two parts:

- A rapidly deployable lie-flat antenna
- A robust remotely operable BGAN terminal

The antenna is placed on a flat surface and oriented in the direction of the satellite. It can then be covered with a light layer of soil or vegetation. The terminal is then connected to the IP feed from the surveillance and intelligence gathering systems. It can be configured to lie dormant, until woken by a command over the network or a locally generated alarm signal from a connected sensor.

The system is designed to form the backbone of future discreet smart surveillance solutions. The global coverage of ELERA network allows Low-profile BGAN to be deployed rapidly with sensor systems to cover a gap in existing surveillance infrastructure. This enables users to deal with a rapidly developing situation or to exploit a fleeting window of intelligence opportunity.

Because it has a very long battery life, can be remotely operated and easily hidden, it offers the opportunity to extend the reach of a surveillance network into areas where manned observation posts would be impractical, unsafe or simply not cost effective.

Government applications

Coastguards and border forces need to detect, recognize, identify and track static and moving targets. Police and intelligence units need to observe personnel, equipment and installations of interest. Security personnel need to protect sensitive perimeters of critical installations. In every case their effectiveness can be multiplied many times by deploying advanced sensor technology connected using Low-profile BGAN.

Unique risk mitigation tool

What makes Low-profile BGAN unique is the way that it provides the full capability of a classic BGAN terminal in a package that is optimized for unattended covert operations in a hostile environment. It thus provides streaming and standard IP services throughout the global footprint of ELERA network.

Covert, discreet, ruggedized

The lie-flat capability, generated by the use of an advanced solid-state, phased-array antenna, differentiates Low-profile BGAN from all other terminals. Remote operation and advanced power management reflect the design principles of maximizing operational effectiveness while minimizing the exposure of personnel to risks.

The lie-flat antenna enables the unit to be hidden in a number of ways. Experience shows that simply placing the unit up on the top of a flat-topped building or ISO container can often be enough to prevent casual discovery. The fact that the antenna can be covered with soil or other material offers many other concealment options. The unit can also be supplied with a number of ready-molded covers (such as simulated bark) for specific applications.

In consequence, the unit is suitable for a wide range of covert or discreet applications, in which discovery of the sensor and communication systems might alert the subject of surveillance or cause interference with or destruction of the system.

Remote management

Remote operation is a powerful capability which makes it possible to cover an area of intelligence responsibility with reduced manpower – or allows existing manpower to go further. Low-profile BGAN's sophisticated power management capability takes this effect even further. Remote wake-on SMS or local, automatically trigged power-up allow the system to operate for extended periods in stand-by mode, which enables ultra-low power consumption and, thus, extended battery life.

The less often that batteries need to be replaced, the fewer personnel are needed to execute battery replacement. This also results in less frequent exposure to potentially hostile conditions, and reduces the risk that the location of discreet sensors will be compromised.

Key features

- Compatible with any IP sensor system
- High data rates support video and audio
- Remote control via SMS
- Lie-flat operation
- Wake-on-trigger and signal offer ultra-low power consumption
- Simple installation without PC
- Minimal pointing required
- GPS built-in
- IP-67

Key benefits

- Allows high-performance sensors to be rapidly deployed at zero notice
- Fills gaps in existing sensor networks
- Reduces the need for trained manpower
- Reduces the exposure of personnel to unnecessary risks
- Can be used for discreet and sensitive operations