



BGAN vs VSAT Comparison

Operating Cost

VSAT bandwidth is most often a fixed monthly fee based upon the link/bandwidth speed, which can be anywhere from \$200 to \$20,000/month depending on the bandwidth. In some cases there are data transfer allowances associated with the VSAT bandwidth plan, but most are based upon Gigabytes of usage per month. BGAN's Standard IP service is charged per Megabyte of data transferred/received, with rate plans ranging from \$3 to \$7 per Mbyte.

Coverage

Inmarsat provides near global coverage with BGAN on a seamless network. You can take your BGAN terminal from Texas to Alberta, to South America, Africa or Asia and connect easily to the Inmarsat satellite network. VSAT coverage is similar to BGAN coverage however the network in most cases is not seamless and you need separate contracts on different satellites and teleports to achieve global coverage. If mobility is a big factor, BGAN provides a more seamless transition across geographies and its small form factor makes it ideal for mobile users.

Ease of Use

BGAN is a simple and easy to use. Within five minutes, any user can set-up, point and connect their PC or a telephone to a BGAN terminal and be communicating. Fixed VSAT systems require a trained technician with a spectrum analyzer to point and peak the VSAT terminal; unless you invest in auto-pointing technology, which enables push-button deployment of the VSAT system. The size of the equipment also factors into ease of use in that a BGAN terminal will fit in your PC laptop bag whereas a VSAT system will often require two people to deal with the size and weight of mounting or moving the equipment.

Form Factor

VSAT terminals range from 1 meter to 2.4 meter diameter for most applications. Fixed antennas can be mounted on a 2" pole or on a non-penetrating roof mount (NPRM) with 500 to 1,000 pounds of ballast to support the mount and prevent it from moving and becoming misaligned. BGAN terminals are about the size of a laptop computer and they include a rechargeable battery so they need not be tethered to a power source for operations.

Communications on the Move

BGAN offers auto-tracking antennas to facilitate communications while in a moving vehicle. If you need your IP communications while you are moving, then BGAN is the best option for land use applications. There are VSAT tracking antennas available but they are designed for maritime use and are a larger form factor than a BGAN tracking antenna.

Licensing

Last but not least is the administrative side of the technologies related to importation and licensing around the globe. Licensing varies from country to country for both BGAN and VSAT. Generally speaking, BGAN licensing is less expensive than VSAT.



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BGAN or VSAT – Comparing the Technologies

There are two popular options for IP communications over satellite: Inmarsat's BGAN (Broadband Global Area Network) and VSAT (Very Small Aperture Terminal) technology, which operates on a variety of satellite carriers including Intelsat, Telesat and SES amongst others. Both technologies provide reliable communications for voice and data applications in remote locations.

Your business applications and requirements will drive the decision making process as to which of the two technologies makes the most sense for your specific situation. Listed below are some of the main differences between BGAN and VSAT which will help you to determine which option is likely better suited to your needs.

Data Volumes

How much data you will send or receive over the satellite link will be a key factor in choosing between VSAT and BGAN since it has a significant impact on operating cost. If you expect to move a lot of data, hundreds of megabytes or gigabytes of data, month over month, on a long term basis, then VSAT will likely be the better choice if none of the other factors below isn't deemed more important.

Link Speed

The BGAN service offers a Standard/Shared service IP connection with peak speeds of 490 Kbps and a Streaming/Dedicated IP service with selectable speeds from 32 to 384 Kbps. VSAT bandwidth is selectable from 64K to multiple Megabits per second in symmetrical or asymmetrical configurations. If you need high bandwidth, then VSAT is the likely path for you.

Number of Concurrent Users

If you don't know what link speed you'll need or how much data you are going to transmit in megabytes, then consider how many concurrent users you will have that need to use the IP communications. Generally speaking, BGAN is for single user or small teams who have sporadic usage patterns through a day or month and their most pressing need is Email, small file transfers, telemetry or short term video broadcasts. VSAT can accommodate large camp operations for oil & gas, mining or military operations where you may have dozens of users and a broader base of applications in use.

Capital Cost

BGAN directional antennas range from \$3,000 to \$5,500 and auto-tracking units are \$8,000-\$18,000. BGAN units are customer installable and do not require a technician to set them up and use them. VSAT costs vary dramatically depending upon several factors including the type of equipment (Ku or C band), BUC size and reflector/antenna size. Entry level configurations are approximately \$3,000 but can be tens of thousands of dollars for large scale operations. Auto-pointing VSAT systems can range in price from \$20,000 to \$200,000 depending upon the type of system deployed. A trained technician is required for VSAT installations, so you will have additional costs with VSAT for initial fixed site installations.