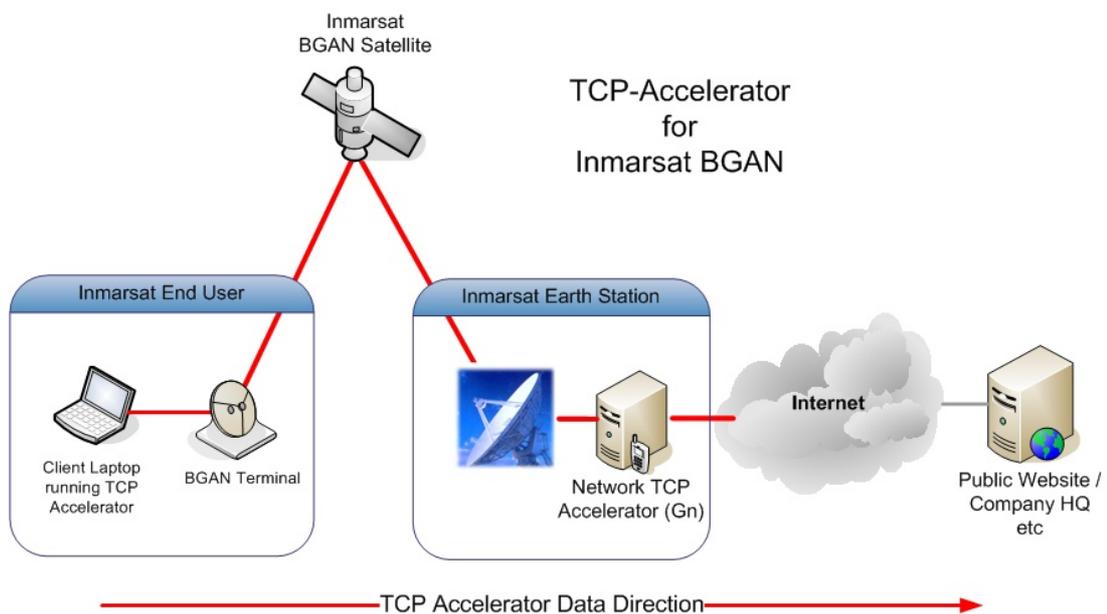


Using TCP Accelerator over BGAN

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Overview

- TCP Accelerator is free software designed by Inmarsat to work exclusively on the BGAN network. Its function is to accelerate all TCP-based traffic from the users remote PC or MAC, to the final destination.
- TCP Accelerator software boosts the upload speed of all TCP traffic by up to 300% (depending on file size), with an average increase across all applications of 70%. The type of traffic it boosts includes:
 - HTTP and HTTPS web pages (Internet Explorer, Firefox, Opera and so on).
 - FTP and Secure FTP (File uploading).
 - SAMBA (Windows file sharing).
 - SMTP email sending (Microsoft Outlook, Eudora, MAC Mail and so on).
 - Peer 2 Peer file sharing (Bitcomet, Emule).

Product range

TCP Accelerator has been tailored to work with the following BGAN terminals:

- Hughes 9201 and 9250.
- Thrane & Thrane EXPLORER 300, 500, 527 and 700.
- Nera WorldPro 1010.
- Addvalue SABRE I.

TCP Accelerator has been developed to support several operating systems. The basic functionality is identical across all platforms:

- Windows XP SP2 and SP1.
- Windows 2003 Server.
- MAC OSX 9.x.
- MAC OSC 10.x.
- Intel MAC.
- RedHat Linux.

Key Features

TCP Accelerator offers the following features over the BGAN network:

- Fully compatible with the following VPN clients, to enable remote users to connect to their corporate sites: Checkpoint, Cisco, Nortel and Juniper Netscreen. All these clients have been extensively tested with TCP Accelerator, and performance increase is nearly identical to non-VPN accelerated traffic.
- Support for all physical connections from your computer (PC or MAC) to the BGAN terminal, that is WiFi, Bluetooth, Ethernet and USB.
- All types of packet switched connections over BGAN are supported, that is Standard IP (Background class), and Streaming IP at 32kbps, 64kbps, 128kbps and 256kbps (depending on the terminal).

Benefits to BGAN users

TCP Accelerator gives you a significant performance increase in the upload direction over the BGAN network, resulting in:

- Increased speed in emails sent from clients such as Outlook and Eudora.
- More responsive web page browsing, especially when using web-based email client programs such as Yahoo, Hotmail or Google Mail.
- Significantly increased file uploads on FTP based programs or via P2P file sharing
- Increased TCP performance overall, using adjusted TCP windows spoofing and extended timeouts which are optimised for the BGAN network.

Setting up

This section describes how to set up your laptop or PC for use with the TCP Accelerator, and gives an example of a TCP Accelerator configuration.

1. Download the latest version of TCP Accelerator using the LaunchPad Update option.
2. Install the program and follow the on screen prompts. If installing on Windows XP, select **Continue Anyway** to any Hardware Installation query windows which may pop up.
3. Once the installation has finished, reboot the computer.
4. TCP Accelerator software is disabled by default, but you can enable it using LaunchPad. To do this, open LaunchPad and select **BGAN Services > TCP Accelerator** from the drop down menu, and select **On**.
If you are using Linux, TCP Accelerator can be turned on and off by typing "service PEP start | stop" as required.
5. Once the TCP Accelerator is enabled, it remains enabled even if you reboot the computer. To disable, repeat step 4, and select **Off**.

NOTE: TCP Accelerator user manuals are available for download from the Inmarsat web site. Refer to “Further details and support” below.

All physical connections (Ethernet, WiFi, Bluetooth and USB) which are used to send traffic over BGAN are accelerated. No Additional hardware is required.

Technical Summary

Some of the TCP Accelerator technical feature sets are summarized below:

Feature Set	Description
Proxy Connection	The TCP Accelerator and Gn Network Accelerator server split the TCP link into two connections: one is a high-delay, satellite packet data link and the other is a terrestrial (internet) link. TCP Accelerator operates each link separately, controlling the flow of data on the link over which it is operating. It has separate built-in algorithms, which optimize performance for normal terrestrial links or high-delay, satellite/wireless links.
TCP Fast Start	One of the ways TCP Accelerator boosts the upload speed of TCP is by removing the native TCP slow start mechanism. Because the round trip time (RTT) on a satellite link is very high, TCP connections can take a long time to establish at full bandwidth. The link can be slowed down further when packet loss is experienced. TCP Accelerator’s Fast Start negates this delay and starts the TCP stream at full rate, which fills the TCP window.
TCP Window Spoofing	The Gn PEP Accelerator server spoofs the TCP window size of the destination server, which increases the amount of TCP packets “in flight” at any time.
Optimised ACK Timeouts	The TCP Accelerator can adjust and extend the TCP ACK timeouts to compensate for the high round trip times over a satellite link.

Further details and support

Further reading:

User manuals for Windows XP and Mac OS X are available for download from the Inmarsat web site, at www.inmarsat.com. Click on the **Support** tab, then from the left-side column select **BGAN**, then **TCP accelerator** to open TCP Accelerator web page. Choose the user manual you require.

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