Newtec EL810

ELEVATION

EL810
Mobile PEP-Box® Terminal
Elevation Product Family

Description

The EL810 Mobile PEP-Box® Terminal is a Performance Enhancing Proxy (PEP) appliance that combines a number of advanced traffic enhancement and security functionalities. This palm-size appliance is a fully integrated USB-powered accelerator which is primarily targeted for optimizing mobile satellite services. The EL810 is to be used in conjunction with the EL840 PEP-Box® Server at the other end of the transmission link.

TCP and HTTP, the most widely used protocols in the Internet, show very poor performance when being used over high latency and lossy networks, such as satellite networks. As a result users experience slow download speed and surfing performance. Moreover valuable satellite capacity is not used in the most efficient way, because the available bandwidth resources are not utilized up to their physical limits.

The ideal solution to overcome such drawbacks is the EL810 Mobile PEP-Box® Terminal. This appliance integrates a traffic enhancement technology that accelerates any TCP based transmission over high latency networks. At the same time the EL810 Mobile PEP-Box® Terminal greatly reduces the TCP data traffic on both forward and return link by means of data compression as well as TCP packet aggregation and session multiplexing. This is achieved by using ETCP (Enhanced TCP) instead of TCP over the satellite link.

In order to protect the user's PC or laptop, the EL810 Mobile PEP-Box® Terminal includes a firewall that can be configured to protect the user from any unauthorized access from the "outside". This stateful inspection firewall filters any data packets based on the originating and target address and blocks undesirable traffic – also from the "inside".

The EL810 Mobile PEP-Box® Terminal comes with an Advanced option package that provides, on top of TCP acceleration and data compression, also acceleration techniques for popular protocols such as HTTP, FTP, POP3 and SMB (CIFS). The HTTP prefetching technology enhances the web surfing experience to an extent that the download time for a web site can be reduced by more than 70 %, so the user has the impression of surfing via regular DSL or Cable based Internet connections. Additionally, the Advanced option package of the EL810 Mobile PEP-Box® Terminal secures any data traffic exchanged via the network by building up an encrypted VPN between the hub and the remote sites.

The EL810 Mobile PEP-Box® Terminal appliance is based on TelliNet that is part of the Tellitec® IP software product family.

Key Features

- Out-of-the-box solution – no additional hardware or software needed at the end user's PC or laptop
- Transparent to other applications
- Integrated firewall
- Superior TCP acceleration by using ETCP
- Data compression
- Advanced cryptographic security
- HTTP, FTP, POP3 and SMB (CIFS) acceleration
- Traffic aggregation, multiplexing and compression

Main Advantages

- Reduces bandwidth costs and increases revenues
- Speeds up time-to-market
- Minimizes customer support efforts
- Boosts service performance
- Ensures high network security and end user privacy
- Seamless integration into existing infrastructure
- Ultra-lightweight palm-size form factor
- USB-powered – no extra power supply required
- High versatility and flexibility
- Easy to integrate and to use

Applications

- Mobile and Portable VSAT Acceleration
- Corporate Networking

Related Products

EL840 PEP-Box® Server
TL100 TelliNet Server Software

Newtec

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Specifications – EL810(R7)

Newtec EL810

General

System Architecture
- Distributed Performance Enhancing Proxy (dPEP) architecture (RFC 3135)
- Acting as a node in a point-to-point or star network
- Based on IP tunneling technology
- Socks 4/5 proxy interface
- HTTP proxy interface
- Operates in L3 routing mode (in-path or on-a-stick)
- Supports asymmetric routing between the EL810 Mobile PEP-Box® Terminal and the EL840 PEP-Box® Server
- Linux OS based
- Built-in CPU watchdog and RAM-usage monitoring

Physical/Hardware
- Width: 27 mm, height: 77 mm, depth: 115 mm, weight: 160 g
- Intel XScale class CPU
- Powered via USB: 5 V at 500 mA
- Operational temperature: 0 - 40 °C
- Operation humidity: 20 - 90 %, non-condensing
- CE label

Interfaces
- 2 x LAN: auto switching 10/100/1'000 Base-T Ethernet interface, RJ-45
- Web based GUI for configuration

Interfaces

Input/Output
- 2 x LAN: auto switching 10/100/1'000 Base-T Ethernet interface, RJ-45

Configuration/Monitoring
- SSH Access
- Web based GUI

Functionalities

Authentication and Accounting
- Terminal to server authentication
- Supports server side traffic accounting

TCP Acceleration
- Used transport protocol: ETCP (Enhanced Transmission Control Protocol)
- Fills the available data pipe up to the configured maximum throughput
- Control traffic reduction through session multiplexing and combined NACK/ACK technology (compared to SCPS-TP average bandwidth utilization savings: 80 - 95 % of volume and packets on return channel)
- Packet loss and delay based three-tier congestion control technology
- SYN ACK spoofing for HTTP traffic
- Dynamic RTT based window size adaptations
- Fast start algorithm
- Packet aggregation
- Configurable MTU
- Tolerates dynamically changing network conditions, packet loss, packet reordering and large data queues

Data Compression
- Supports on-the-fly TCP payload compression
- Average compression savings: 25 - 40 %
- Deflate compression algorithm (RFC 1951)
- Selective compression based on URL extension and/or MIME type

Embedded Firewall
- Stateful inspection firewall
- NAT, 1:1 NAT
- Port forwarding
- MAC address filtering
- IP spoofing, SYN flood and configurable DoS protection

VPN Support and Transmission Security (Optional)
- Transparent interception of traffic
- Hides original end-point information (IP, port, etc.)
- On-the-fly Blowfish encryption
- Re-keying on basis of ETCP sessions
- Automatic encryption key negotiating according to Diffie-Hellman algorithm (RFC 2631)
- Available key length: 56 bits (default) up to 448 bits (optional)

IPSec Compatibility (Optional)
- IPSec compliant VPN tunnel
- Supported encryption algorithms: DES, 3DES, AES-128, AES-192 and AES-256
- Automatic Internet Key Exchange (IKE) encryption key exchange
- Authentication through X.509v3 certificates with RSA or pre-shared keys (PSK)
- Tunnel and transport mode Encapsulated Security Payload (ESP)

Application Acceleration (Optional)
- Server-to-gateway HTTP prefetching with support for embedded HTML
- Server-side JavaScript and CSS objects prefetching
- Built-in web cache
- SMB (CIFS) read-ahead technology
- POP3 e-mail prefetching

Server Side Component
- EL840 PEP-Box® Server with valid license key

Ordering Information

EL810 Mobile PEP-Box® Terminal		Order n°
Default configuration		
End user authentication and accounting, TCP acceleration and session aggregation, on the fly compression, firewall. Portable, USB powered hardware platform 1/0.5 Mbit/s Rx/Tx, 80 TCP connections		EL810
Configuration options Category	Max. 1 option per category	
Performance	1/0.5 Mbit/s Rx/Tx, 80 TCP connect.	Default
	1/0.5 Mbit/s Rx/Tx, 80 TCP con. Adv.*	TA-02
	2.5/1 Mbit/s Rx/Tx, 80 TCP connect.*	TA-03
	2.5/1 Mbit/s Rx/Tx, 80 TCP con. Adv.*	TA-04
	5/1.5 Mbit/s Rx/Tx, 80 TCP connect.*	TA-05
	5/1.5 Mbit/s Rx/Tx, 80 TCP con. Adv.*	TA-06
Additional options Category	Max. 1 option per category	
IPSec	IPSec VPN-Tunnel Option	AT-01
Services Category		
Assistance	Care Pack Basic	GA-06
	Care Pack Extended	GA-07

*Upgradable via license key
Other configurations and options are available on request.
Contact your sales representative for details (sales@newtec.eu).

EL810 Mobile PEP-Box® Terminal Configuration Options: