

EL848

High Speed PEP-Box® Server Elevation Product Family

ELEVATION

Description

The EL848 High Speed PEP-Box® Server is a Performance Enhancing Proxy (PEP) appliance that combines a number of advanced traffic enhancement for the server side of point-to-point and point-to-multipoint satellite IP networks, such as high rate IP trunking networks with speeds up to 155Mbit/s. The EL848 High Speed PEP-Box® Server is to be used in conjunction with the EL838 High Speed PEP-Box® Gateway at the other end of the transmission link or any combination of EL838, EL830, EL810 or TL100 Tellitec SW Licenses

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.

The ideal solution to overcome such drawbacks is the High Speed PEP-Box® Server EL848. The EL848 integrates a traffic enhancement technology that accelerates any TCP based transmissions over high latency networks. At the same time the EL848 High Speed Gateway 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.

The EL848 High Speed PEP Box can also be used in conjunction with the EL860 VCM/ACM shaper and encapsulator, in networks where the transmission bandwidth is varying dynamically.

The EL848 regroups a complete package of functionalities such as the acceleration of popular protocols: HTTP, FTP, POP3 and SMB (CIFS). HTTP acceleration 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. On top of that the EL848 High Speed PEP-Box® Server can secure any data traffic exchanged via the network by building up an encrypted VPN between the hub and the remote sites.

The Elevation PEP-Box® appliances are based on TelliNet and TelliShape of the Tellitec® IP software product family.

Key Features

- Traffic enhancement and shaping for speed up to 155 Mbit/s
- Superior TCP acceleration and advanced security functionalities
- HTTP, FTP, POP3 and SMB (CIFS) acceleration
- Traffic aggregation, multiplexing and compression
- Traffic congestion and packet-loss avoidance
- Out-of-the-box solution
- Server redundancy allows 100 % service availability

Main Advantages

- Easily deals with high speed links and heavy traffic requirements
- 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
- High versatility and flexibility
- Easy to integrate and to use

Applications

- High Speed SCPC Links
- High Speed IP Backbones
- High Speed IP Trunking
- High Speed Private Networks
- High Speed Government and Defence networks

Related Products

EL810 Mobile PEP-Box® Terminal
EL830 PEP-Box® Gateway
EL838 High Speed PEP-Box® Gateway
EL860 CCM/VCM/ACM Shaper and Encapsulator
EL170 Satellite IP Modulator
EL178 High Speed IP Modulator
EL470 Satellite IP Modem
EL478 High Speed IP Modem
TL100 TelliNet Server Software
TL200 TelliShape Server Software
EL501 Elevation IP Hub



SHAPING THE FUTURE OF SATELLITE COMMUNICATIONS

www.newtec.eu

Rev. 3/03.2012

Specifications – EL848(R9)

General

System Architecture

- Distributed Performance Enhancing Proxy (dPEP) architecture (RFC 3135)
- Acting as a dPEP server in a point-to-point or star network
- Based on IP tunneling technology
- Operates in L3 routing mode (in-path)
- Supports asymmetric routing between the EL848 PEP-Box® Server and the EL838 PEP-Box® Gateway
- Linux OS based
- Built-in CPU watchdog and RAM-usage monitoring
- Supports built-in redundancy and load sharing

Physical/Hardware

- 1RU, width: 19", depth: 69.2 cm, weight: 15 kg
- Rack mountable, rack mount kit included
- Intel Xeon server class CPU
- 24 GB Ram
- hard disk drive
- Power supply: 100/240 VAC, 50/60 Hz, 460 W
- Operational temperature: 10 - 35 °C
- Operation humidity: 10 - 90 %, non-condensing
- CE label

Interfaces

Monitoring Only

- 3 x USB (1 x at front, 2 x at back) e.g. for keyboard/mouse
- 1 x VGA

Input/Output

- 2 x 2 Gigabit Ethernet controller

Configuration/Monitoring

- SSH Access
- Web based GUI

Functionalities

Authentication and Accounting

- Server side enforced access control through gateway authentication
- Forward and return channel traffic accounting

TCP Acceleration

- Used transport protocol: ETCPv2 (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
- 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

VPN Support and Security

- Transparent interception of traffic
- On-the-fly Blowfish encryption: AES or Blowfish
- Hides original end-point information (IP, port, etc.)
- Automatic encryption key negotiating according to Diffie-Hellman algorithm (RFC 2631)
- Re-keying on basis of ETCP sessions

Application Acceleration

- Server-to-gateway HTTP acceleration with support for embedded HTML
- SMB (CIFS) read-ahead technology
- POP3 e-mail prefetching

Client Side Component

- EL810 PEP-Box® Terminal
- EL830 PEP-Box® Gateway
- EL838 High Speed PEP-Box® Gateway

Ordering Information

EL848 High Speed PEP-Box® Server		Order n°
Default configuration		
End user Authentication and accounting, TCP acceleration and session aggregation, on the fly compression + encryption, VPN support, HTTP/POP3/SMB acceleration and prefetching. Congestion avoidance. Supports the EL838 PEP-Box Gateways: . Rack mount hardware platform. 30/30 Mbit/s Rx/Tx 12K TCP connections		EL848
Configuration options		
Category	Max. 1 option per category	
Performance	30/30 Mbit/s Rx/Tx 12K TCP connections*	Default
	40/40 Mbit/s Rx/Tx 16K TCP connections*	TB-31
	50/50 Mbit/s Rx/Tx 20K TCP connections*	TB-32
	60/60 Mbit/s Rx/Tx 24K TCP connections*	TB-33
	70/70 Mbit/s Rx/Tx 28K TCP connections*	TB-34
	80/80 Mbit/s Rx/Tx 32K TCP connections*	TB-35
	90/90 Mbit/s Rx/Tx 36K TCP connections*	TB-36
	100/100 Mbit/s Rx/Tx 40K TCP connections*	TB-37
	110/110 Mbit/s Rx/Tx 44K TCP connections*	TB-38
	120/120 Mbit/s Rx/Tx 48K TCP connections*	TB-39
	130/130 Mbit/s Rx/Tx 52K TCP connections*	TB-40
	140/140 Mbit/s Rx/Tx 56K TCP connections*	TB-41
	150/150 Mbit/s Rx/Tx 60K TCP connections*	TB-42
160/160 Mbit/s Rx/Tx 64K TCP connections*	TB-43	
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).

Tellittec and PEP-Box are registered trademarks. All trademarks are properties of their respective holders.

Europe

Tel: +32 3 780 65 00
Fax: +32 3 780 65 49

North-America

Tel: +1 203 323-0042
Fax: +1 203 323-8406

South-America

Tel: +55 11 2092 6220
Fax: +55 11 2093 3756

Asia-Pacific

Tel: +65 6777 22 08
Fax: +65 6777 08 87

China

Tel: +86 10-823 18 730
Fax: +86 10-823 18 731

MENA

Tel: +971 4 390 18 78
Fax: +971 4 368 67 68