Research and Development Center
VLATACOM

vREBECCA

Cryptographic Security for High-Capacity Transport Systems vREBECCA (Vlatacom REliaBIE Communication ChAnnel)

Product Description

Vlatacom Rebecca is an encryption device for high-capacity digital transport systems (up to 2.5Gbit/s) such as fibre optic networks, digital radio relay devices, or lower capacity inverse multiplexing systems. A rich palette of interfaces enables the device to be easily integrated into new or existing transport systems.
vRebecca is not merely an encryption device – it is also a multi-Gbit/s communications platform based on cutting edge Field Programmable Gate Array (FPGA) technology. This feature allows users to adjust the vRebecca device to their needs, including the implementation of their own algorithms, or in setting up special control, key exchange, and specific authentication methods that rely on user-specific certification authorities.

Main Features

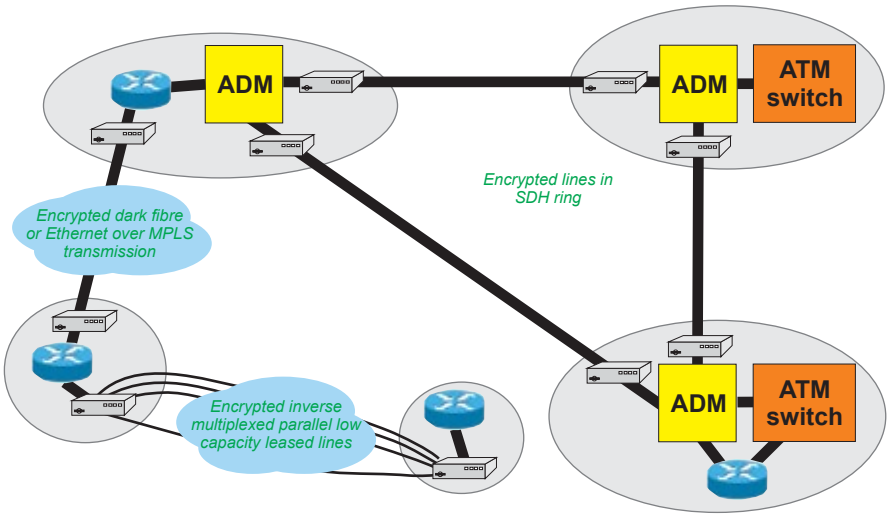
- High transfer capacity (up to 2.5Gbit/s)
- Encryption done at the data link level (layer 2) or bulk mode (layer 1) to minimise latency
- Default encryption algorithm (AES-256)
- On-demand implementation of a user's own encryption algorithms
- Device authorisation and certification
- Three-factor authentication (code, smart card, fingerprint)
- Key deletion system in case of forceful disassembly
- Interfaces:
  - Ethernet (10/100/1000Mbit/s capacities)
  - SDH STM1/4/16 (155Mbit/s, 622Mbit/s, and 2.5Gbit/s capacities)
- Low-capacity systems (E1, E3, and V11) with inverse multiplexing of up to 8 lines with a total capacity of up to 270Mbit/s
- Redundant power supply from DC or AC sources
-vSMMS (Vlatacom Security Management and Monitoring System) is used for key management.

Market

In today's world, it is possible to tap into fibre optic cables without physically cutting the fibres by using specially designed couplers, making the transfer of sensitive data particularly vulnerable. Radio relay systems, which are commonly used as a backup for optical transport systems, or a quick-setup solution are even more susceptible due to their antenna-based transmissions which pass through open space.
The vRebecca device is a solution to these problems, intended for the encryption of transmitted data in government information systems, bank systems, corporate networks, and military communication systems.

Applications

- Router connections via leased fibre optic cables with bit-level encryption
- Router connections via digital radio relay systems or Ethernet over MPLS systems with packet-level encryption
- Router connections via parallel low-capacity lines when vRebecca acts both as an encryption device and as an inverse multiplexer with a total capacity of up to 270Mbit/s. Packet-level or bit-level encryption is available.
- SDH ring security. The connection between each ADD/DROP multiplexer pair is encrypted with a pair of vRebecca devices. Bit-level or VC4 virtual container encryption is available.



Key Advantages

- Secure transport of sensitive information
- Complete control over data encryption
- Efficient use of bandwidth and low latency
- Simple to fit into new or existing ICT infrastructure
- Adaptable to suit the needs of each individual user

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