SONET Encryption

Modern high-speed networks are mostly based on the synchronous SONET/SDH technology. **OC-3, OC-12 or OC-48** connections with transmission speeds from **155 mbps** to **2.4 gbps** are used in a more and more broadening area of application. Examples are inter-connections between PBX devices, wire-, laser- or radio based SONET links for customer access and high speed router data exchange via Packet over SONET (POS).

The **ATMedia SDH Encryptor** is a protocol transparent encryption device for SONET/SDH links. The system encrypts **OC3, OC12 and OC48 networks** in real-time and without any loss of quality.

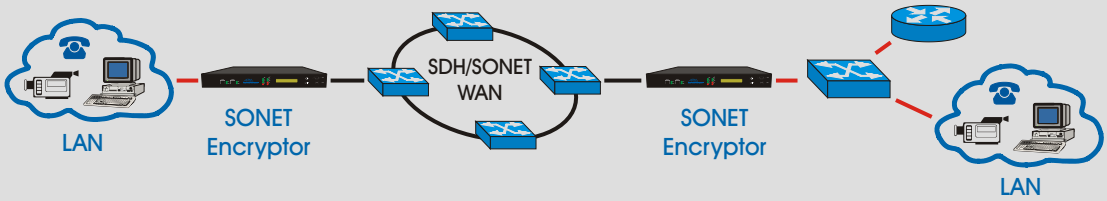
Areas of application for the **ATMedia SONET Encryptor** are network scenarios where standard SONET or SDH applications have to be reliably secured against tapping and manipulation. The **ATMedia SDH Encryptor** simply adds VPN functionality to these networks.

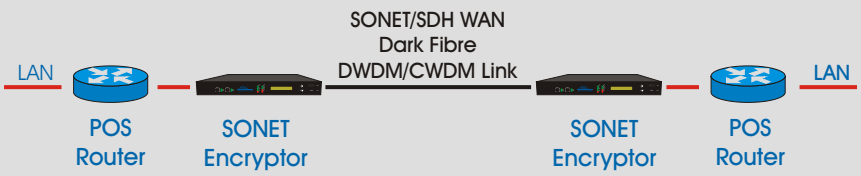
ATMedia SONET Encryptor

Highlights of the ATMedia SONET Encryptor

- Full duplex AES encryption at transport layer in hardware at 155 mbps, 622 mbps and 2.4 gbps
- Simple integration into OC-3c/STM-1, OC-12c/STM-4 or OC-48c/STM-16 SONET or SDH networks
- Maintenance-free operation including automatic key change
- Transparent handling of overheads and network clocks

Application scenarios





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Technical Data

Encryption Performance

- Line rate encryption of the C4/C4-4c/C4-16c container (path mode) or of the entire SONET link (line mode)
- Key change without interruption of traffic
- Additional latency: STM1: <16 µs, STM4: <8 µs, STM16: <2µs

Crypto Technology

- AES (256 bit) encryption with CBC block mode
- Key generation with hardware random source
- Key exchange with Diffie-Hellman ECC algorithm

Key management:

- Device authentication with passphrase/hostkey
- Tamper resistant key storage
- Automatic time triggered change of session keys
- Autonomous operation without external key management

System management:

- Configuration via serial console (RS-232/V.24) or SSH network (Ethernet RJ45-10/100BT) access
- Integrated monitoring of network status and operation
- Audit and event logging
- Remote monitoring via SNMP (V2c/V3)
- Link monitoring via ATMedia CryptMon

Hardware:

- Network configurations:
  - STM-1/OC-3c (155.52 mbps)
  - STM-4/OC-12c (622.08 mbps)
  - STM-16/OC-48c (2.488 gbps)
- Transparent handling of SONET/SDH overheads and lead through of network clocks
- SFP fiber modules: SM 1310/1550 nm SR/IR/LR, CWDM, DWDM
- Tamper resistant housing
- 19" 1RU chassis (h: 44mm, w: 430mm, d: 320mm)
- Redundant hot-swap PSU: 110-240V AC 50-60Hz or -48V DC

The ATMedia systems and related documentation are subject to continuos improvement.
Therefore ATMedia reserves the right to change documentation without notice.