atmedia
secure data communication

10G SONET/SDH Encryption

atmedia 10G SDH Encryptor

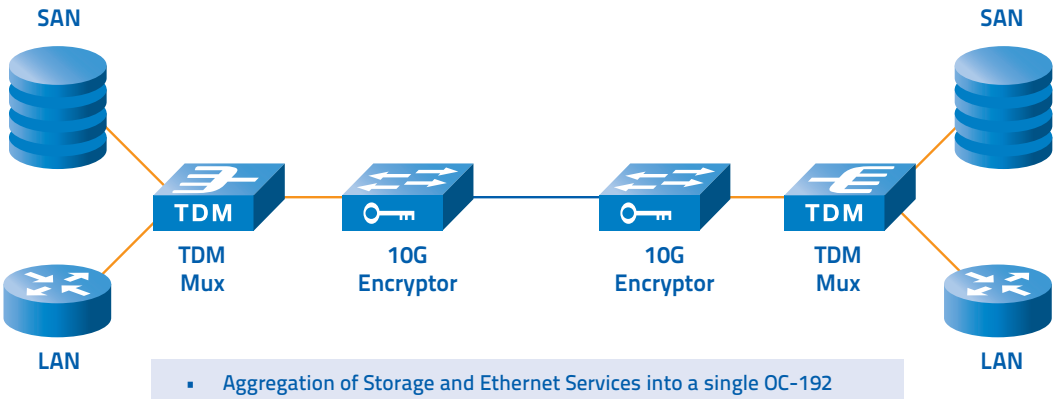
The 10 Gigabit network technology is rapidly spreading in today`s networks. Together with the increasing use of Dark Fiber and WDM connections, high performance backbones can be easily implemented over long distances.

However there is a high risk of data tapping and data manipulation. In the worst case, third parties may gain full access to the internal structure of the network.

These threats demand for the protection of the public accessible parts of the interconnection. If this protection can be achieved without changes in the network infrastructure and the workflow, the resulting security solution will be highly acceptable.

The atmedia 10G SDH Encryptor realizes this by a very simple integration (bump in the wire) into the existing SONET/SDH structure. The hardware link encryption at network layer 1 allows a fully transparent operation in respect of higher protocols and does not cause any measurable effect on LAN operation.

Application: Datacenter Interconnection



- Aggregation of Storage and Ethernet Services into a single OC-192
- Encryption of OC-192 SONET/SDH with the 10G Encryptor
- Advantages:
  - → Cost effective
  - → 1G Ethernet, 1G, 2G and 4G Fibre Channel
  - → TDM systems from various vendors available and tested
  - → Datacenter certifications available for TDM systems

Highlights

- Strongest crypto technology available (AES-GCM, ECC)
- Full-Duplex real-time AES encryption at 10G SDH transport level
- Simple integration into STM-64 SONET/SDH networks (bump in the wire)
- Maintenance-free operation
- Transparent handling of SONET/SDH overheads and lead through of network clocks
- No impact on existing redundancy mechanisms
- Compliant to the requirements of FIPS 140-2 L3 and CC EAL4
- Certified for the transmission of classified data by the German BSI (restricted)

atmedia GmbH
Science Park 1
66123 Saarbrücken
GERMANY

Tel: +49 681 84 24 77
Fax: +49 681 84 24 81

crypt@atmedia.de
www.atmedia.de

atmedia
secure data communication

Technical Data

atmedia 10G SDH Encryptor

Performance
▪ Real-time encryption of 10G SONET/SDH STM-64/OC-192 links
▪ Full-duplex line-speed throughput, no encryption overhead
▪ Key changes without interruption of traffic
▪ Latency per device: ≤ 0,004ms

Key Management
▪ Ad-hoc device authentication
▪ Tamper resistant key storage
▪ Automatic time triggered change of master keys and session keys
▪ Autonomous operation without external key management

Network
▪ Compatible to SONET and SDH services
▪ Transparent handling of SONET/SDH overheads
▪ Lead through of network clocks (3R clock regeneration)
▪ Optical Loss Pass-through

Line Interfaces
XFP-modules
XFP MM LC (62,5/125µ)
XFP SM LC (9/125µ) SR/IR/LR
XFP DWDM/CWDM, tunable DWDM

Crypto Technology
▪ AES (256 bit) encryption with CBC block mode
▪ Key generation with hardware random source
▪ Key exchange with Diffie-Hellman ECC algorithm (DH-ECKAS)
▪ Compliant to the requirements of FIPS 140-2 L3 and CC EAL4
▪ Approved by the BSI for VS-NfD, NATO and EU restricted

System Management
▪ Configuration via serial console (RS-232/V.24) or Secure Shell (SSH) network access (out-of-band Ethernet RJ45-10/100BT)
▪ Integrated monitoring of network status and operation
▪ Audit and event logging
▪ Syslog support
▪ remote monitoring via SNMP (V2c/V3 authpriv)
▪ Link monitoring via atmedia CryptMon

Hardware
Operating temperature: 1°C - 40°C
Relative humidity: 10% - 85%, non condensing
Tamper resistant housing
482,6mm (19") 2RU chassis, H: 88mm, W: 430mm, D: 370mm, Weight: 10kg
Redundant Hot-Swap PSU: 110-240V AC 50-60Hz or -48V DC, 115W

Conformity
▪ CE, FCC

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

atmedia GmbH
Science Park 1
66123 Saarbrücken
GERMANY

Tel: +49 681 84 24 77
Fax: +49 681 84 24 81

crypt@atmedia.de
www.atmedia.de