SafeNet Ethernet Encryptor
PRODUCT BRIEF

Key Features

- Full-duplex line-rate encryption of Ethernet networks up to 10Gbps

- Meets rigorous FIPS 140-2 Level 3 security requirements

- Bump-in-the-wire design for easy installation into existing network environments

- Minimal Latency, Zero Overhead enables transparent operation

- Standards-based authentication, digital certificates and key management

- Central configuration, monitoring, and management through the SafeNet Security Management Center (SMC)

Wide area networks (WANs) are used to connect private local area networks (LANs) over circuitry that is typically leased from telecommunications providers. WAN services connect branch offices, data centers and disaster recover sites but recently, the volume of sensitive data traversing the WAN has increased dramatically. It is becoming evident that traditional router-based encryption cannot keep up with today's bandwidth intensive applications, which results in increased cost and complexity, reduced performance and drastically limited scalability.

SafeNet Ethernet Encryptors provide a complete network security solution that enables the use of all available network bandwidth and elimination of complex administration. Designed to overcome the technological limitations of IPsec encryption, the SafeNet Ethernet Encryptors move sensitive data faster and more efficiently at network layer 2, thereby lowering the cost of network security and compliance.

IPsec/Router Based Encryption Challenges

Because of its high overhead, significant latency and complex administration, traditional router based encryption at layer 3 often does not scale efficiently to the levels of throughput required to protect data sent over high-bandwidth networks. Encrypting over IPsec results in loss of bandwidth and higher administration complexity increasing the likelihood of configuration issues. Encrypting through IPsec can tax your bandwidth by up to 50% due to protocol overhead, translating into wasted communications expenses.

Layer 2 Network Encryption Lowers Cost and Complexity

Ethernet encryption is better suited for WAN links because it is less complex and more efficient than using IPsec. By encrypting sensitive data at layer 2, the entire Ethernet frame and consequently all data traversing the network is encrypted. This is a more attractive alternative than purchasing or leasing costly bandwidth upgrades with high monthly charges. In addition, replacing a legacy IPsec encryption solution with an Ethernet encryptor, bandwidth availability is effectively doubled and delays through a IPsec network connection are reduced by as much as 10X.

Central Policy Management Lowers Cost and Increases Security

Like all SafeNet high-speed security appliances, the SafeNet Ethernet Encryptor is managed by the SafeNet Security Management Center (SMC), a robust web-based policy management application that is easy to use, secure, and provides the advanced audit and monitoring capabilities necessary for security compliance. SMC provides the ability to define integrated security policies that can be distributed across multiple devices, reducing management complexity and cost. SMC also has a number of best-in-class high availability options to ensure your management system is resilient to network and system outages.

Technical Specifications

Management
- Out-of-band Ethernet port
- SNMP v3
- IPv4 / IPv6 support
- RS-232 local console (CLI)
- In-band Management
- SMC II version 3.0 or higher

LED Status Indicator
- Local interface
- Network interface
- Temperature
- Battery level
- System Operation
- Secure Status
- Power
- LEDs for interface Tx/Rx

Physical Security
- Tamper-proof storage of encryption keys and user passwords
- Tamper-resistant metal case

Cryptography
- AES Algorithm – 256-bit key
- SHA-256
- HMAC-SHA-256
- Key Management
- RSA 2048-bit public key
- Automatic session key update
- Authentication using digital certificates

Audit
- Alarms
- Interface status
- Event log
- Audit log

Accreditations
- Certified FIPS 140-2, Level 3 cryptographic module
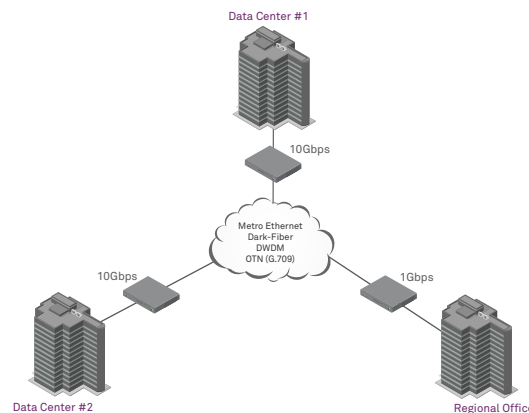
Best-in-class Ethernet Encryption

SafeNet's Ethernet Encryptor family provides easy to deploy protection for data transmitted to and from remote facilities, disaster recovery sites and offsite storage facilities while preserving full network performance, survivability and service level agreements. The SafeNet Ethernet Encryptors AES-256 keys are refreshed every hour protecting all layer 2 payload including IP addresses and higher level protocols. Digital certificates are used for remote device authentication and secure key exchange. The SafeNet Ethernet Encryptor family is designed to the strictest security standards and has been certified to FIPS 140-2 Level 3 making it the standard for network encryption at leading financial institutions and governments worldwide.

Performance
- Full-duplex operations at line speed with no packet loss for all modes of operation
- Cut through data streaming for low latency vs. store and forward architectures
- Key Exchange without interruption

Network Compatibility
- Carrier Ethernet (E-LINE / E-LAN)
- DWDM / Dark Fiber
- Ethernet over MPLS
- OTN (G.709)
- Ethernet II, IEEE 802.3
- Jumbo Frame Support
- VLAN, MPLS Transparency

Network Speed	100Mbps	1Gbps	10Gbps
Chassis	Model 600 / 1U		Model 650 / 3U
Power Options			
DC -48V	Integrated		Integrated Dual supplies
AC 90-250 VAC, 47-63Hz	Integrated		N/A
Dual AC	External module		Integrated
Power Consumption			
DC	40W		40W
AC	110W		110W
Environmental			
Temperature	5 – 40oC operating temperature		
Humidity	0 – 80% RH @ 40oC operating temperature		
Altitude	0 – 1980m operating altitude AMSL		
Mechanical			
Height	41mm (1RU)		134mm (3RU)
Width	435mm (19" rack mountable)N/A		
Depth	285mm		360mm
Weight	4.5kg		8kg
Regulatory Standards			
Emissions	FCC Part 15 Class B		
Safety	NRTL (via TUV) IEC 60950/UL 60950		
Other	CE Mark, RoHS, WEEE		
FIPS Certification	1216/1367		1209/1368