SafeNet Ethernet Encryptor

Protecting High-Speed Layer-2 Networks up to 1Gbps

The demand for network bandwidth has increased dramatically in recent years. Enterprises are connecting corporate and regional offices, server farms, data centers, and disaster recovery centers with multi-gigabit lines at a fraction of the cost they were paying before. As they do this, however increased regulation and increasing threats against sensitive data are driving organizations to encrypt information as it traverses these networks. As carriers drive to increase their geographic presence, they frequently hand off data to other carriers which means that an organization's data may traverse multiple carrier networks and cross into international territory where the legal protections may not be the same as the organization's own country.

Key Features

Full-duplex line-rate encryption of Ethernet networks up to 1Gbps

Standards-based authentication, digital certificates, and key management

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

Part of world's first complete family of High-Speed Encryption devices for network security interface independence

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

Fiber Networks are Vulnerable

In the past, it was believed that using fiber-optic cable to transport data provided adequate protections against eavesdropping because it could not be tapped. It is well known today that this is not the case. Fiber tapping technology, widely available today, allows individuals to siphon data off fiber-optic cable without disrupting the data flow and without being detected even on DWDM optical networks. Furthermore, where it was once believed that analyzing the massive amounts of data traveling over today's ultra high-speed network links was impossible, devices are now available that allow an attacker to automatically capture and analyze target data from a 10-gigabit data stream in real-time.

Protecting High-Speed Ethernet

Designed to provide greater bandwidth efficiency, ease of installation and use for end-users and network operators, Ethernet is the emerging standard for high-speed network communications in the WAN. SafeNet Ethernet Encryptors are a family of high-performance Layer-2 security appliances that protect from 10Mbps to 10Gbps Ethernet networks with seemless end-to-end integration.

SafeNet Ethernet Encryptors deliver instant protection across the network at Layer-2. Unlike Layer-3 encryption technologies, Layer-2 adds no overhead and virtually no latency.

Central Policy Management Lowers Cost and Increases Security

Like all SafeNet high-speed security appliances, the SafeNet Ethernet Encryptor is managed by the 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.

Best-in-class Ethernet Encryption

The SafeNet Ethernet Encryptor, based on the SafeNet Model-600 encryption platform, provides unparalleled performance, encrypting up to 1 Gbps Ethernet links at line rate full-duplex with virtually no latency. Using AES-256, the industry standard for strong encryption, all Layer-2 payload data including IP addresses and higher level protocols are protected.
X. 509 certificates are employed for remote device authentication and secure key exchange. The Model 600 Encryptor family is designed to the strictest security standards making it the standard for network encryption at leading financial institutions and for governments worldwide.

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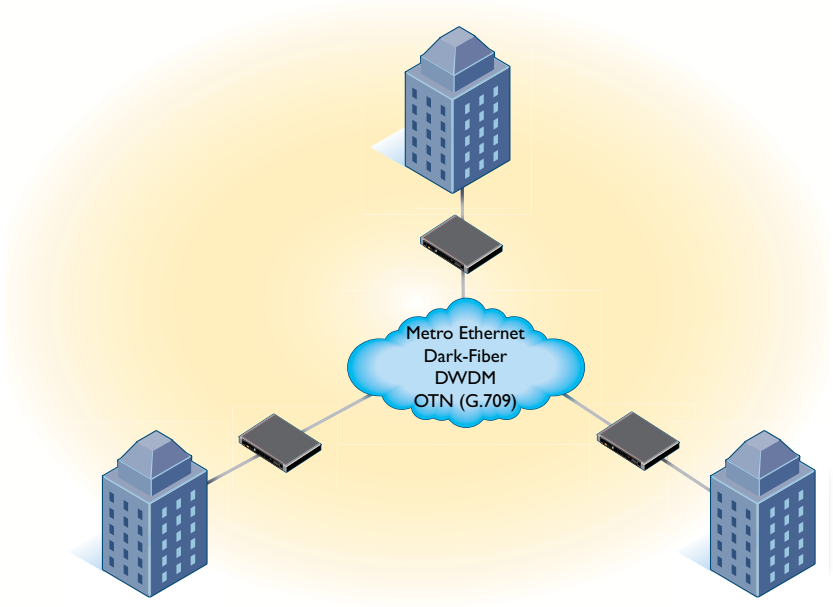
PRODUCT BRIEF



Performance

- Full-duplex operation 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 change without interruption

Network

- Carrier Metro Ethernet (E-LINE / E-LAN)
- DWDM / Dark-Fiber
- Ethernet over OTN (G.709)
- Ethernet over SONET
- Local Switched LAN
- Ethernet II, IEEE 802.3
- Jumbo frame support
- VLAN, MPLS transparency

Interfaces

- SFP Fiber and Copper modules

Cryptography

- AES algorithm - 256-bit key
- SHA-256
- HMAC-SHA-256

Audit

- Alarms
- Interface status
- Event Log
- Audit Log
- Date and time of secure connection
- Configuration changes

Key Management

- RSA 2048-bit public key
- Automatic session key update
- Authentication using X.509 certificates

Accreditations

- Includes a FIPS 140-2, Level 3 cryptographic module (validation in process)
- RoHS-5

Technical Specifications

Management

- *Out-of-band Ethernet port*
- *SNMP v3*
- *RS-232 local console*
- *In-band management*

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*

Environmental

- *5° to 40°C operating temperature*
- *0 to 80% RH @ 40°C operating temperature*
- *0 to 1980m operating altitude AMSL*

Electrical

- *90VAC to 250VAC, 110W maximum, 47-63Hz*
- *- 48VDC, 40W maximum*

Mechanical

- *Height - 41mm (1RU)*
- *Width - 435mm (19" rack mountable)*
- *Depth - 285mm*
- *Weight - 4.5kg*

Regulatory Standards

Meets regulatory standards for emmisions and safety including FCC Part 15 Class B, TUV, and CE marks.

SafeNet
The Foundation of Information Security

www.safenet-inc.com

Corporate Headquarters:
4690 Millennium Drive, Belcamp, Maryland 21017 USA
Tel.: +1 410 931 7500 or 800 533 3958, Fax: +1 410 931 7524,
Email: info@safenet-inc.com

EMEA Headquarters:
Tel.: +44 (0) 1276 608 000, Email: info.emea@safenet-inc.com

APAC Headquarters:
Tel: +852 3157 7111, Email: info.apac@safenet-inc.com

For all office locations and contact information, please visit
www.safenet-inc.com/company/contact.asp

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