

Datacryptor® Gig Ethernet Encryptor



Thales Layer 2 Datacryptor Gig Ethernet Encryptor

The Federal government is moving to high speed wide area networks utilizing Gigabit Ethernet to enable time-sensitive video, voice, and data applications. Examples include interconnections between military facilities over wireless (DoD 8100.2 mandate), leased lines, or private dedicated circuits. The Datacryptor Gig Ethernet encryptor is designed as a protocol transparent encryption device. The system encrypts 2 GBPS of data in real-time, securing the most demanding service requirements using the latest encryption algorithms – 3DES (168-bits) and up to AES (256 bits). The Datacryptor Gig Ethernet overcomes the complexities associated with IP routing and IPSec for point-to-point applications and protects the confidentiality and integrity of critical networks with the strongest commercially available cryptography. Ease of use and quick setup make the Datacryptor Gig Ethernet encryptor a natural choice for point-to-point high-speed networks. Coupled with a common and seamless key management mechanism and field upgradeability, the Datacryptor Gig Ethernet and the entire Datacryptor family ensures easy and cost effective deployment throughout its life cycle.

Key Applications:

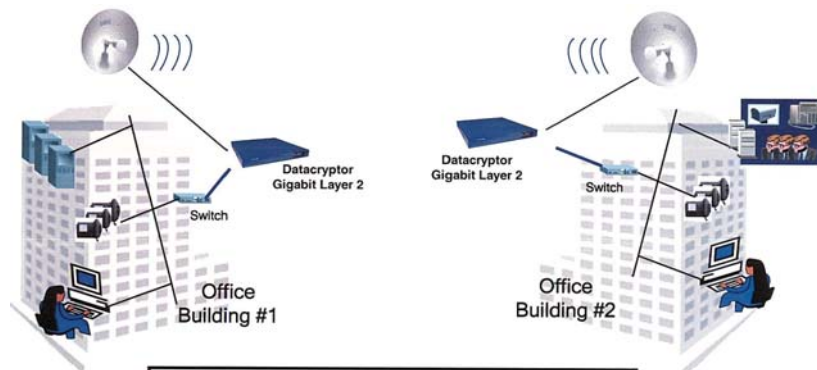
Point-to-Point deployments – Gigabit point-to-point applications that require extremely low network latency due to the time sensitive nature of the applications.

Wireless WAN deployments – Supports the full spectrum of outdoor wireless WAN technologies including: Free Space Optics, licensed, unlicensed RF products. The new federal government regulation (DoD 8100.2) mandates all wireless applications shall utilize a FIPS certified, AES encrypted product. The Datacryptor Gig Ethernet meets the new requirements.

Highlights of the Datacryptor Gig Ethernet Encryptor:

- Managed by the Thales Element Manager which also manages T1, 100mb, Gig IP, OC-3, OC-12 and OC-48 devices.
- Transparent for Jumbo Frames, VLAN and MPLS
- Full-duplex encryption at Gigabit Ethernet line rate of 2GPBS
- Network integration without any change of infrastructure
- Maintenance-free operation including automatic key change without link interruption
- Exchangeable fiber optics for distances up to 100 km

Application Scenario



Key Benefits:

- Prevents unauthorized network access
- Guarantees data integrity during transmission
- Authenticated end points
- Secures data transmission in the airwave

Technical Specifications:

Data Transfer Rate	-Full duplex encrypted line rate at 2 Gbps.
Encryption Algorithms	-3DES (ANSI X.952, 168 bit) -AES (128, 192, 256 bit)
Key Management	-Signed Diffie-Hellman key agreement protocol -DSA Signature Algorithm with 1,024-bit key and 160-bit signature (FIPS 186), SHA-1 Hash Algorithm (FIPS 180) X.509 certificates -Hardware random number generation -Automatic time triggered key change without interruption of connections
Device Management	-Integrated Element Management application -Management using PPP protocol (9-pin D serial port or IP protocol 10/100 base-T RJ45 Ethernet port)
Physical Interfaces	Small Form Factor/Pluggable (SFP) Host and Network connection modules Short Range – 2 Km (1.2 miles) with 1310nm laser Intermediate Range – 15 Km (9 miles) with 1310 or 1550 nm laser Long Range – 40 to 80 Km (24 to 48 miles) with 1310 or 1550 nm laser
Flexibility	-Bulk encryption transparent to line protocols -AC and DC redundant power options -Non-Controlled cryptographic item (CCI) reduces logistical Overhead cost -Pluggable interfaces, conform specific connection needs -Secure auditing
Physical Security	-Tamper evident case
Safety and Security Certifications	-Designed to meet FIPS 140-2 Level 2 -Designed to meet NEBS -FCC Part 15 Class B, UL, CE
Power	-Redundant hot swappable AC (universal) or DC (48V) power supplies
Temperature	Operating: 5°C to 40°C (40°F to 100°F) Storage: -10°C to 60°C (15°F to 140°F)
Relative Humidity	-From -10% to 90% at 25°C (77°F) non-condensing, falling to 50% Maximum at 40°C (100°F)
Barometric Pressure	-780 to 1100 mBar
Physical Specifications	19" RU rack-mountable housing Height: 4.55 cm (1.79 inches) Width: 43 cm (16.93 inches) Depth: 46.2 cm (18.19 inches) Weight: 15 Kg (33 lbs.)

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