

Solution Brief

# Thales High Speed Encryption Solutions

Delivering Data-in-Motion Security without Compromise

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Building a future we can all trust

Networks are under constant attack and sensitive assets continue to be exposed. More than ever, leveraging encryption is a vital mandate for addressing threats to data as it crosses networks. Thales High Speed Encryption solutions provide Federal agencies with a single platform to 'encrypt everywhere' — from network traffic between data centers and the headquarters to backup and disaster recovery sites, whether on premises or in the cloud.

Thales's comprehensive network traffic encryption solutions use Layer 2 and 3 encryption to ensure security without compromise. Ensuring maximum throughput with minimal latency, Thales High Speed Encryptors allow customers to better protect data, video, voice, and metadata from eavesdropping, surveillance, and overt and covert interception—all at an affordable cost and without performance compromise.

## Thales High Speed Encryption Advantages

### Robust Security for Sensitive Traffic

Thales High Speed Encryptors, hardware-based, stand-alone appliances, deliver robust encryption and FIPS 140-2 Level 3 tamper-resistant key management capabilities. Rigorously tested and certified to be in compliance with the requirements of Common Criteria, the Federal Information Processing Standard (FIPS), the solutions have been vetted by such organizations as the Defense Information Systems Agency (DODIN APL) and NATO. Thales High Speed Encryption solutions meet the specifications for Suite B cryptographic algorithms (AES-256, ECDSA, ECDH, and SHA-512) for secure communications. Using NIST certified random number generators, Thales High Speed Encryptors use high quality keys that are generated and stored in hardware, ensuring that the keys are always under your control, even in multi-tenant environments.

### Maximum Performance and High Availability

Thales High Speed Encryption solutions have been proven to deliver max uptime in the most demanding, performance

intensive environments. The solutions have near-zero latency, and can operate in full-duplex mode at full line speed, without running the risk of packet loss. Further, the small amount of latency is deterministic and is unaffected by packet size. There is also a zero-overhead option available for optimal performance. Plus, these solutions feature descriptive diagnostics that give administrators early warnings of potential issues.

### Optimal Flexibility

Thales High Speed Encryption solutions offer flexible, vendor agnostic interoperability, meaning they're compatible with all the leading network vendors throughout your network. They support a wide range of security objectives and network environments, able to adapt to evolving security and network requirements. The product range supports network speeds of 10 Mbps to 100 Gbps, and platforms range from single to multi-port appliances, and are available in hardware and virtual solutions.

## Next Gen High Speed Encryption

### Crypto-Agility

Thales High Speed Encryptors (HSE) are crypto-agile, meaning they support customizable encryption for a wide range of elliptic and custom curves support. The appliances also allow bring your own entropy capabilities. The crypto-agile platform is future-proof, allowing for responsive deployment of next-gen or custom algorithms. In response to the Quantum threat, Thales High Speed Encryptors already leverage Quantum Key Distribution (QKD) and Quantum Random Number Generation (QRNG) capabilities for future-proof data security.

### Transport Independent Mode

Transforming the network encryption market, Thales High Speed Encryptors are the first to offer Transport Independent Mode (TIM) - network layer independent (Layer 2, Layer 3, and Layer 4\*) and protocol agnostic data in motion encryption. By supporting Layer 3, Thales High Speed Encryptors offer network operators more configuration options using TCP/IP routing for securing critical data.

## Thales High Speed Encryptor Family

Thales AT offers a range of Thales High Speed Network Encryptors to ensure the right mix of features and capabilities tailored to your needs and budget. The products in our portfolio are fully interoperable, so a single platform can be used to centrally manage encryptors across single customer links or distributed networks. Each of the encryptors offered can support up to 512 concurrent encrypted connections. Hardware encryptors are certified for FIPS 140-2 Level 3 and Common Criteria EAL +2, EAL 4+\*.



### Thales Ethernet Encryptor CN9000 Series

Delivering 100,000,000,000 bits per second of high assurance and secure encrypted data, the CN9000 Series provides mega data security (100 Gbps), with the lowest latency in the industry (<2μs).



### Thales Ethernet Encryptor CN6000 Series

The CN6000 Series encryptors offer variable-speed licenses from 100 Mbps to 10 Gbps. The CN6140 has a multi-port design that makes this encryptor variable, with speed licenses up to 40 Gbps (4x10 Gbps), highly flexible and cost-effective.



### Thales Ethernet Encryptor CN4000 Series

The CN4000 Encryptors are versatile and compact, offering 10 Mbps-1 Gbps encryption in a small-form factor (SFF) chassis. The CN4000 series is ideal for branch and remote locations, offering cost effective, high-performance encryption, without comprising network performance.



### Thales Virtual Encryptor CV1000

The CV1000, the first hardened virtual encryptor, is instantly scalable and may be deployed rapidly across hundreds of network links, providing robust encryption protection for data-in-motion. The Thales Virtual Encryptor CV1000 is a Virtual Network Function (VNF) that delivers an agile network and reduces capital expenditure requirements. Ideal for organizations that are virtualizing network functions and taking advantage of Software Defined Networking (SDN).

## About Thales Trusted Cyber Technologies

Thales Trusted Cyber Technologies, a business area of Thales Defense & Security, Inc., is a trusted, U.S. provider of cybersecurity solutions dedicated to U.S. Government. We protect the government's most vital data from the core to the cloud to the edge with a unified approach to data protection. Our solutions reduce the risks associated with the most critical attack vectors and address the government's most stringent encryption, key management, and access control requirements.

For more information, visit [www.thalestct.com](http://www.thalestct.com)