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SafeNet High Speed Encryptors for SaaS Application Providers

The movement to the cloud is vast and swift, but securing data and identities is often overlooked. According to the 2018 Thales Data Security Report[1], 75% of respondents cite data-in-motion security solutions as being most effective at preventing breaches. But even though these are the most effective methods, data protection comes in dead last of IT security spending priorities. SaaS vendors especially must put data protection high on the list of priorities. If you transmit or hold any customer data, you are partially responsible for it, and you carry the primary liability for the security of your platform, placing a huge burden of trust on your consumers. SafeNet High Speed Encryptors enable SaaS providers to meet that burden with the most effective protection for data in motion, fulfilling customer high security expectations, without sacrificing platform agility.

Why SafeNet High Speed Encryptors?

- Preferred by market leading financial institutions, telcos and other commercial organizations and governments in over 35 countries.
- Certified FIPS 140-2 L3, Common Criteria, NATO, UC APL

Maximum network performance

- Near-zero overhead
- Microsecond latency

Scalable and simple

- "Set and forget" management
- Low total cost of ownership

High-assurance vulnerability protection

- True end-to-end, authenticated encryption
- State-of-the-art client side key management

Protecting sensitive data in motion

A SaaS provider will rely on high speed fibre-optic networks to support vital communications and operations. However, if left unprotected, these networks can be highly vulnerable, leaving highly sensitive assets exposed.

Using encryption appliances for communications throughout the network provides optimal security. Because the data is encrypted, any hacker attempting to tap the traffic would get only useless material, and would therefore not be able to manipulate the data for their own purposes.

Built to meet most stringent regulatory requirements

SaaS customers must rely on the providers to protect their most private and valuable data assets, as well as to be compliant with regulations such as HiiPA, PCI DSS, GDPR, DFARS, etc. Because the consumer is ultimately responsible for ensuring compliance with data privacy and protection mandates, regardless of data location, they must keep that in mind when selecting a SaaS provider. Thales offers SafeNet High Speed Encryptors as hardware-based, stand-alone appliances that deliver robust FIPS 140-2 Level 3 tamper-resistant key management capabilities, or as hardened virtual encryptors (Virtualized network functions) for SDN. Rigorously tested and certified to be in compliance with the requirements of Common Criteria and the Federal Information Processing Standard (FIPS), the solutions have been vetted by such organizations as the Defense Information Systems Agency (DISA UC APL) and NATO. In addition, SafeNet High Speed Encryption solutions are the first and only commercial solutions that combine traffic flow security (TFS) with Layer 2 Ethernet encryption, making traffic patterns and characteristics impervious to exposure through network traffic analysis. SafeNet High Speed Encryption solutions encrypt network traffic using the robust AES-256 algorithm (CFB, CTR, GCM) and supports Suite B cryptographic algorithms for encryption, key exchange, digital signature, and hashing, including Elliptic Curve Digital Signature Algorithm (ECDSA), Elliptic Curve Diffie–Hellman (ECDH) and SHA-256/SHA-384/SHA-512). Using NIST certified random number generators, SafeNet High Speed Encryptor keys are generated and stored in hardware, ensuring that the keys are always under your control, even in multi-tenant environments.

Crypto-Agility

SafeNet 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, SafeNet High Speed Encryptors already leverage Quantum Key Distribution (QKD) and Quantum Random Number Generation (QRNG) capabilities for future-proof data security.

Top notch network performance

Our near-zero latency solutions ensure encryption doesn't impact bandwidth, speed, or scalability. HSEs ensure your applications are secure, while lowering costs, and increasing business agility. SafeNet Encryptors provide the administrative efficiency and optimized performance and bandwidth utilization that make it ideally suited to SaaS environments. What you pay for HSEs will quickly return your investment with the costs you'll save with increased bandwidth.

"SafeNet High Speed Encryptors protect our information, our customers' information, and our customers' customers' information. We sleep better at night knowing our data is protected from end to end while it moves from one data center to the next and back again. And the HSEs quickly paid for themselves in what we saved on bandwidth"

—CISO at a large SaaS vendor

Keeping it in house

With the huge and growing security responsibilities of SaaS providers, many are moving toward data repatriation, the trend to move away from public clouds and stand up in-house datacenters. This puts the control directly in their own hands. For instance, a large SaaS company began moving users of its file-storage service away from a well-known public cloud provider and onto its own custom-designed infrastructure. Not only did they improve efficiencies and security standards, but they saved $75 million over a two year period.

That example is by no means the only SaaS market leader making the decision to create their own in-house datacenters. According to IDC[2], 53% of enterprises have or are considering bringing their workloads back on-premises. And it's after the decision is made that the hard work starts. From designing and building a vast computer network, to shifting all company services onto new machines, spanning what could be many datacenters on multiple continents.

Interconnecting datacenters

SaaS networks can span multiple datacenters, spanning the globe. With SafeNet High Speed Encryption solutions, there are several deployment options to fit specific needs and objectives. The encryptors can be used in single locations and in complex environments that span multiple locations. Administrators can manage these encryptors directly using a command line interface to integrate into an existing environment or they can leverage management solutions that enable central, efficient, and secure administration of any number of SafeNet High Speed Encryptors. Plus, the management software can function as a certificate authority for X.509 certificates.

SafeNet High Speed Network Encryptors for SaaS providers

The SafeNet Encryptor family offers a range of solutions that provide the right fit to ensure data in motion security for small and large enterprise, service provider clouds, and government, and for specific use cases. The SafeNet Encryptor CN 9120 and the SafeNet Encryptor CN6140 are perfect for SaaS providers managing datacenter-to-datacenter traffic. These appliances offer full line rate transparent encryption for all voice, video and data communications moving across dark fibre, and metro or wide area Ethernet networks (MAN or WAN). Each of the encryptors offered can support up to 512 concurrent encrypted connections and are certified for FIPS 140-2 Level 3 and Common Criteria EAL +2, EAL 4+*.

For East-West use cases, the SafeNet Virtual Encryptor CV1000 can be an alternative solution to secure your data traveling within the internal data center, without increasing your footprint. For SaaS providers in the process of repatriating or looking to do so, the CV1000 can be a viable addition to your data center strategy, giving you the ability to enhance your data-in-motion security, without adding additional hardware.

SafeNet Multi-link Encryptor CN6140

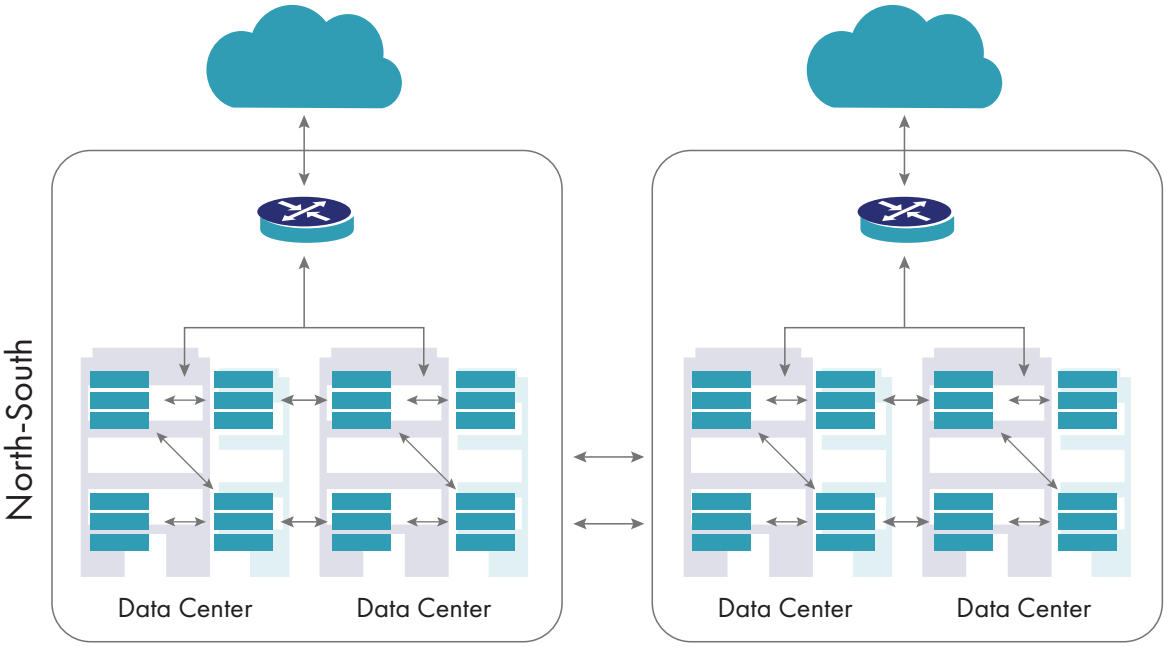
The CN6140 has a multi-port design that makes this encryptor variable, with speed licenses up to 40 Gbps (4x10 Gbps), highly flexible and cost effective.

SafeNet Ethernet Encryptor CN9120

Delivering 100,000,000,000 bits per second of high-assurance data encryption, the SafeNet Ethernet Encryptor CN9120 (CN9120) provides mega data security (100 Gbps) and high speed network performance with ultra-low latency.

SafeNet Virtual Encryptor 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 SafeNet 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).



East-West

About Thales Cloud Protection & Licensing

Today's enterprises depend on the cloud, data and software in order to make decisive decisions. That's why the most respected brands and largest organizations in the world rely on Thales to help them protect and secure access to their most sensitive information and software wherever it is created, shared or stored—from the cloud and data centers to devices and across networks. Our solutions enable organizations to move to the cloud securely, achieve compliance with confidence, and create more value from their software in devices and services used by millions of consumers every day.

[1]2018 Thales Data Threat Report

[2]2IDC ('Pay-per-Use Models in IaaS Survey,' July 2016)

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