

CN6000 SERIES ENCRYPTION HARDWARE

Multi-Certified. High-Assurance. Crypto-Agile

SENETAS CN6000 SERIES ENCRYPTORS

- RACK-MOUNTED, NETWORK INDEPENDENT 1-10GBPS ENCRYPTION.

Why Senetas CN6000 Encryptors

- Certified, maximum high-speed network performance and data protection:
- robust, defence-grade high-speed encryption
- secure data transmission across Layers 2, 3 and 4
- excellent total cost of ownership and ROI
- near-zero latency and zero network impact
- maximum bandwidth, minimum overhead
- scalability and custom flexibility
- simple to manage
- maximum availability (99.999% up time)
- single or multi-port
- crypto-agile and quantum-ready

Field Programmable Gate Array (FPGA) benefits:

- flexibility of FPGA chip technology
- advanced customisation
- cut-through architecture minimising latency
- hardware flexibility not enabled by ASICs

Senetas high-assurance network encryptors protect much of the world's most sensitive data.

Our multi-certified encryptors are used by some of the world's most secure organisations, including governments and defence forces; commercial and industrial enterprises; cloud, data centre and telecommunications service providers in more than 40 countries.

It is often assumed that data networks are inherently safe. They are not. Data networks are vulnerable to security breaches.

To be protected from a data network breach, cyber-attack, innocent error, or technical failure, your data must be encrypted. Only when encrypted, can data be safe – rendering it useless to unauthorised parties.

Senetas high-assurance network data encryptors are certified by international, independent testing authorities to protect your data when transmitted.

Senetas trusted high speed encryption technology now puts certified defence-grade encryption within easy reach of organisations with entry-level and “encrypt everywhere” requirements.

The CN6010 and CN6100 provide all the CN6000 series platform benefits in a cost effective encryptor, while the CN6140 introduces even greater flexibility and is available as either a single or multi-port device.

Network services

Senetas CN6000 Series encryptors provide highly secure, full line-rate transparent encryption for data moving across metro / wide area networks; in point-to-point, hub & spoke or meshed environments.

The CN6000 Series dedicated encryptors provide optimal security through separation of duties. Rack-mounted and high-speed for business-critical applications, they offer 1Gbps to 10Gbps bandwidth speeds (including 4x1Gbps to 4x10Gbps multi-port).

They are the optimal choice when you require:

- efficient, high-assurance, investment-proof data encryption
- network Independent Encryption, in-field upgradable and flexible hardware
- peace of mind with Common Criteria, NATO and FIPS certifications
- compact, tamper-proof 1U form factor with advanced performance and power saving features

The intrinsic key generation and distribution capability in our CN6000 Encryptors removes reliance on external key servers, providing a robust, fault-tolerant security architecture. The rugged tamper-resistant chassis also gives uncompromising protection to key material held in the encryptor.

Full interoperability with the Senetas CN series encryptors means customers may standardise on one platform to protect transmitted data across large hub and spoke or meshed networks, among locations.

CN6140 multi-port encryption

The CN6140 introduces even greater flexibility and is available as either a single or multi-port device. With rate limited options (per channel) users can customise their encryption to provide anything from 1Gbps up to 4x 10Gbps.

Network and management

Senetas CM7 management software provides simple, secure remote management either out-of-band – using a dedicated Ethernet management interface – or in-band, using the encrypted Ethernet port.

Local management using a command line interface is available via a serial console connector.

Integration with Thales CypherTrust

Senetas CN (and CV) Series encryptors include integrated support for CypherTrust key management, the industry's leading centralised key management platform. KeySecure provides simple and secure encryption key management across the entire lifecycle; including key generation, storage, distribution and deletion.

Senetas encryption platforms

The CN6000 series leads Senetas's commitment to robust and multi-certified high-assurance encryption.

For customers with more modest data network and transmission requirements, the CN4000 series provides solutions for 10Mbps to 1Gbps; based on the same, trusted Senetas CN platform.

Customers looking to encrypt to the virtual network edge using SD-WAN can do so with Senetas CV Series virtualised encryption.

Certifications

Government and commercial customers benefit from the Senetas CN6000 series international, independent testing authority certifications.

- Common Criteria EAL 2+ / 4+
- FIPS 140-2 Level 3
- NATO



CN6010 Rack-Mounted Carrier-Grade 1Gbps Certified Encryptor



CN6100 Rack-Mounted Carrier-Grade 10Gbps Certified Encryptor



CN6140 Single-Port or Multi-Port 1-10Gbps Certified Encryptor

WHAT MAKES CN SERIES ENCRYPTORS STAND OUT?



Performance

High Speed

Market-leading performance. Operating anywhere from 10Mbps or 100Gbps, Senetas encryptors consistently win competitive performance test.

Low Latency

Operating in full duplex mode, at full line speed, without packet loss. Latency is as low as 2 microseconds per unit at 100Gbps.

Zero Impact

The zero impact of Senetas encryptors is not limited to network bandwidth and latency; it extends to network operations and management.



Security

Certification

For over 20 years, Senetas R&D has remained committed to the principle of certification in depth. Senetas CN Series encryptors are certified by: FIPS, Common Criteria and NATO.

Key Management

All CN Series encryptors feature state-of-the-art encryption key management. Keys are securely stored and encrypted, and only accessible by you.

Solution Integrity

Senetas high-assurance encryption solutions feature dedicated, tamper-proof hardware and provide gapless, end-to-end, authenticated encryption.



Versatility

Crypto Agility

All Senetas encryptors are 'crypto-agile'; from 100% compatibility and interoperability to customisable encryption and FPGA based flexibility.

Topology Support

Senetas CN encryptors operate in point-to-point, point-to-multipoint and fully meshed network topologies.

Flexible Management

Configuration may be performed locally or remotely through the intuitive Senetas CM7 management software.



Efficiency

Cost Effectiveness

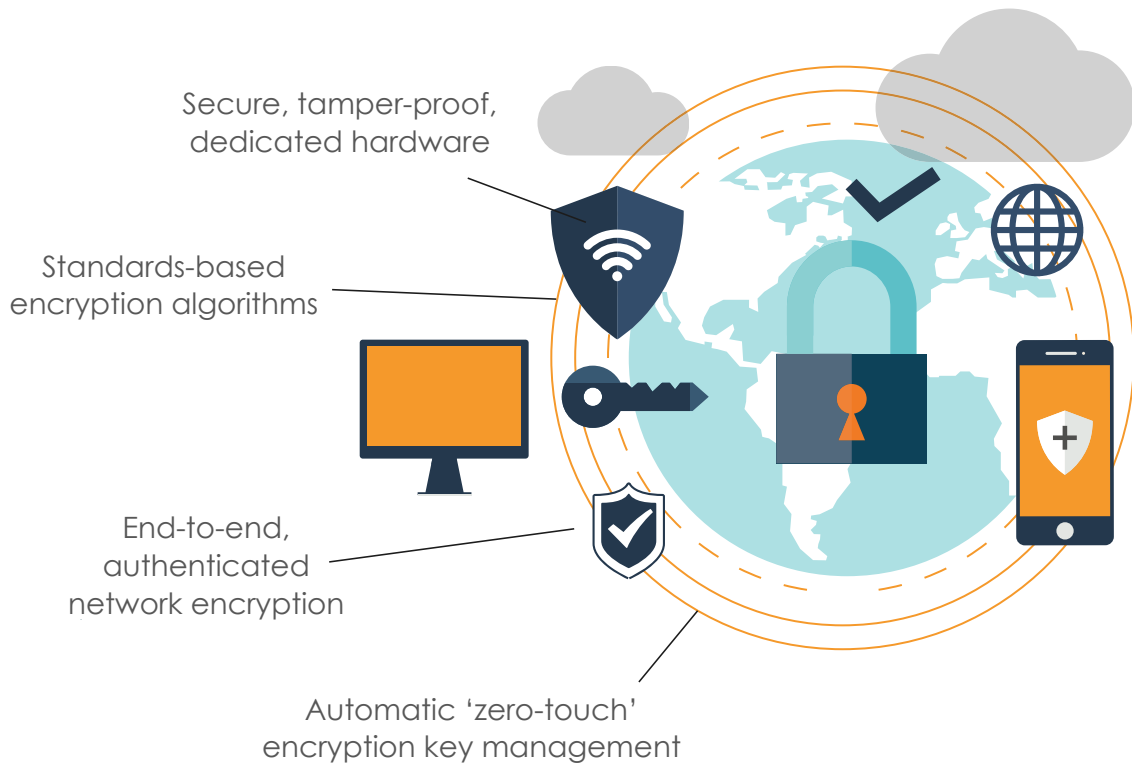
Senetas encryptors provide excellent TCO through a mix of network bandwidth savings, ease of management and longevity.

Reliability

All carrier-grade Senetas encryptors are hot-swappable, feature dual redundancy and deliver 99.999% uptime.

Flexibility

Use of FPGA technology enables maximum operational flexibility, including use of custom encryption and in-field upgradability.



High-Assurance Encryption

As recommended by leading data security and encryption analysts; for a network encryption solution to be truly robust, and provide long-term data protection (well beyond the useful life of the data), it must be a high-assurance solution.

Not all encryption solutions are created equal. So-called 'hybrid' encryption devices – such as network routers/switches with embedded encryption or those using MACSec or similar standards (not originally intended for WAN and MAN security) provide low assurance data protection.

By contrast, Senetas CN Series encryption solutions are certified by the world's leading independent testing authorities as suitable for government and defence applications. They are purpose-engineered for dedicated, high-assurance network data security.

Senetas CN Series encryptors' security credentials include all four essential high-assurance features:

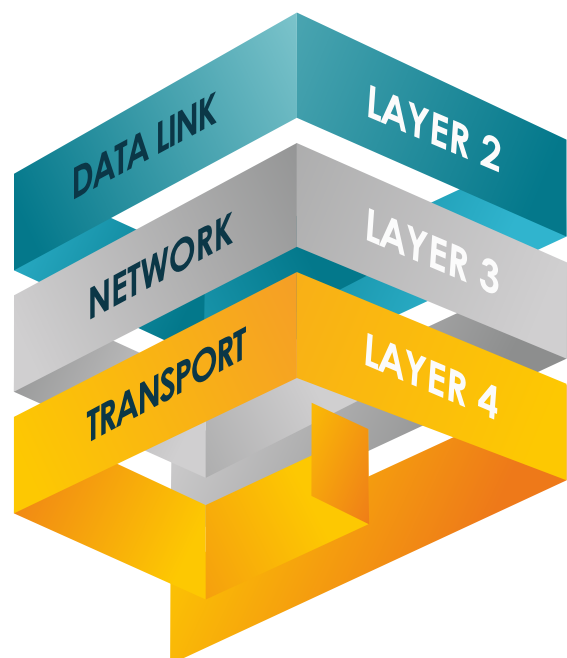
- Secure, tamper-proof hardware; dedicated to network data encryption
- State-of-the-art, client-side, zero-touch encryption key management
- End-to-end, authenticated encryption
- Use of standards-based encryption algorithms

Network Independent Encryption

Many organisations utilise multiple data network Layer protocols (Layer 2, 3 and 4) to help deliver their business applications and communications services. Recognising this, Senetas has designed-in Network Independent Encryption.

This advanced, network Layer agnostic encryption technology enables destination policy-based, concurrent multi-Layer encryption.

Significantly, customers are still assured of strong, end-to-end encryption as the protected data traverses the various network Layers, for example: from Layer 2 Ethernet to Layer 3 IP network destination.



SENETAS CN6000 SERIES

| Model | CN6010 | CN6100 | CN6140 | |
|---|---------------|---------------|-------------------|------------------|
| Network Protocols Supported | ETHERNET | ETHERNET | ETHERNET (SINGLE) | ETHERNET (MULTI) |
| Protocols and Connectivity | | | | |
| Network topologies | All | All | All | All |
| Maximum speed | 1Gbps | 10Gbps | 10Gbps | 4 x 10Gbps |
| Link/rate limiting | ✓ | ✓ | ✓ | ✓ |
| Support for jumbo frames | ✓ | ✓ | ✓ | ✓ |
| Protocol and application transparent | ✓ | ✓ | ✓ | ✓ |
| Encrypts Unicast, Multicast and Broadcast traffic | ✓ | ✓ | ✓ | ✓ |
| Automatic network discovery and connection establishment | ✓ | ✓ | ✓ | ✓ |
| Network interfaces | RJ45, SFP | XFP | SFP, SFP+ | SFP, SFP+ |
| Security | | | | |
| Tamper resistant and evident enclosure | ✓ | ✓ | ✓ | ✓ |
| Anti-probing barriers | ✓ | ✓ | ✓ | ✓ |
| Flexible encryption policy engine | ✓ | ✓ | ✓ | ✓ |
| Robust AES encryption algorithm | ✓ | ✓ | ✓ | ✓ |
| Per packet confidentiality and integrity with AES, GCM encryption | ✓ | ✓ | ✓ | @1Gbps only |
| Automatic, zero-touch key management | ✓ | ✓ | ✓ | ✓ |
| Traffic flow security (TRANSEC) | ✓ | ✓ | ✓ | ✓ |
| Encryption and Policy | | | | |
| AES 128 or 256bit keys | 128/256 | 128/256 | 128/256 | 128/256 |
| Policy based on MAC address or VLAN ID | ✓ | ✓ | ✓ | ✓ |
| Encryption modes | GCM, CFB, CTR | GCM, CFB, CTR | GCM, CFB, CTR | GCM, CFB, CTR |
| Self healing key management | ✓ | ✓ | ✓ | ✓ |
| Certifications | | | | |
| Common Criteria EAL2+ EAL4+ | ✓ | ✓ | ✓ | ✓ |
| FIPS 140-2 Level 3 | ✓ | ✓ | ✓ | ✓ |
| NATO | ✓ | ✓ | ✓ | ✓ |
| Performance | | | | |
| Low overhead full duplex line-rate encryption | ✓ | ✓ | ✓ | ✓ |
| FPGA based cut-through architecture | ✓ | ✓ | ✓ | ✓ |
| Ultra low latency for high performance | ✓ | ✓ | ✓ | ✓ |
| Latency (µs per encryptor) | < 10 @ 1Gbps | < 5 @ 10Gbps | < 5 @ 10Gbps | < 5 @ 10Gbps |
| Management | | | | |
| Config & management via CM7 and SNMPv3 | ✓ | ✓ | ✓ | ✓ |
| SNMPv1/2 monitoring (read-only) | ✓ | ✓ | ✓ | ✓ |
| Certificate signing | RSA, EC | RSA, EC | RSA, EC | RSA, EC |
| Support for external (X.509v3) CAs | ✓ | ✓ | ✓ | ✓ |

| Model | CN6010 | CN6100 | CN6140 | |
|--|--|---|--|--|
| Network Protocols Supported | ETHERNET | ETHERNET | ETHERNET (SINGLE) | ETHERNET (MULTI) |
| Management | | | | |
| Remote management using SNMPv3 (in-band and out-of-band) | ✓ | ✓ | ✓ | ✓ |
| NTP (time server) support | ✓ | ✓ | ✓ | ✓ |
| CRL and OCSP (certificate) server support | ✓ | ✓ | ✓ | ✓ |
| Maintainability/Interoperability | | | | |
| In-field firmware upgrades | ✓ | ✓ | ✓ | ✓ |
| Dual swappable AC and/or DC power supply | ✓ | ✓ | ✓ | ✓ |
| Fan cooled | ✓ | ✓ | ✓ | ✓ |
| User replaceable fans and batteries | ✓ | ✓ | ✓ | ✓ |
| Fully interoperable with all CN models | ✓ | ✓ | ✓ | ✓ |
| Physical and Installation | | | | |
| Form factor | 1U rack mount | 1U rack mount | 1U rack mount | 1U rack mount |
| Physical dimensions (mm) W / D / H | 435/329/43 | 435/329/43 | 435/329/43 | 435/329/43 |
| Weight | 8.5kg | 8.5kg | 8.5kg | 8.5kg |
| Power source | Mains | Mains | Mains | Mains |
| Power input rating | 100-240 VAC, 50/60 Hz, 0.6 A or 40.5-60 VDC, 1.0 A | 100-240V AC, 50/60 Hz, 1.5A or 40.5-60V DC, 2A | 100-240 VAC, 50/60 Hz, 1.5 A or 40.5-60 VDC, 2.0 A | 100-240 VAC, 50/60 Hz, 1.5 A or 40.5-60 VDC, 2.0 A |
| Power consumption at highest data rate | 18W | 50W | 22W | 49W |
| Environment, Regulatory and Safety | | | | |
| RoHS compliant | ✓ | ✓ | ✓ | ✓ |
| Maximum operating temperature | 0-80% RH at 50°C | 0-80% RH at 50°C | 0-80% RH at 40°C | 0-80% RH at 40°C |
| Safety standards | EN 60950-1 (CE) UL / IEC 60950-1 AS/NZS 60950.1 | EN 60950-1 (CE) UL / IEC 60950-1 AS/NZS 60950.1 | N 60950-1 (CE) IEC 60950-1 AS/ NZS 60950.1 | N 60950-1 (CE) IEC 60950-1 AS/ NZS 60950.1 |
| UL listed | ✓ | ✓ | ✓ | ✓ |

GLOBAL SUPPORT

Senetas encryption solutions are distributed and supported internationally (outside Australia and New Zealand) by Thales

Thales is the world leader in digital security and defence, servicing over 30,000 customers across 180 countries. Senetas products are sold by Thales under its brand.

ANZ PARTNER COMMUNITY

Senetas works directly with customers and their service providers across Australia and New Zealand. We provide technical consultancy and support to data networks providers, systems integrators and cloud service providers. Visit our **ANZ Partner Page** for full details.

© SENETAS CORPORATION LIMITED

www.senetas.com

Senetas is a leading developer of end-to-end encryption security solutions; trusted to protect enterprise, government, defence, Cloud and service provider network data in over 40 countries.

From certified high-assurance hardware and virtualised encryption, to secure file-sharing and collaboration with data sovereignty control, all are based on the same crypto-agile platform and deliver security without compromise.

Regional Contacts:

| | | |
|------------------------------|------------------------|---|
| Asia | T: +65 8307 3540 | E: infoasia@senetas.com |
| Australia & New Zealand | T: +61 (03) 9868 4555 | E: info@senetas.com |
| Europe, Middle East & Africa | T: +44 (0)1256 345 599 | E: info@senetas-europe.com |
| The Americas | T: +1 949 436 0509 | E: infousa@senetas.com |

GET IN TOUCH

Are you looking for a service provider to help you select and implement a network data encryption solution? Contact Senetas and we'll help you find the right one.

Senetas works with IT infrastructure service providers and systems integrators across the globe, to help specify the optimal encryption solution for their customers' needs.

Customers may contact Senetas directly to discuss their requirements; or ask their service provider to speak to us on their behalf.

ENCRYPTION SECURITY WITHOUT COMPROMISE

Whatever your network security needs, Senetas has an encryption solution to suit. Our certified high-assurance encryptors protect data across networks operating at speeds from modest 10Mbps to ultra-fast 100Gbps and support all network topologies.

Our virtualised encryption solution, for virtual CPE and virtualised WAN, supports bandwidths of up to 5Gbps. It provides policy-based, end-to-end encryption across multi-Layer networks.

Senetas encryptors are recognised globally for delivering maximum data security and crypto-agility, without compromising network or application performance.

SECURE FILE SHARING

SureDrop offers all the flexibility of a drop-box style solution, with the added benefit of best-in-class encryption security and 100% control over data sovereignty.

For customers seeking additional layers of content security, SureDrop is also available with the Votiro Disarmer extension.

DISARM MALICIOUS CONTENT

Votiro Disarmer leverages patented Content Disarm & Reconstruction (CDR) technology to protect your files from the most advanced, persistent cyber-attacks. It sanitises incoming files, eliminating the risks associated with zero-day or undisclosed attacks, whilst preserving 100% file functionality.

CN6000-PB0519

SENETAS 