CN6040 Ethernet / Fibre Channel Encryptor
Multi-Protocol, Scalable Network Encryption
PRODUCT BRIEF

Why CN6000 Encryptors?
No-compromise performance:

- Near-zero latency
- Maximum bandwidth
- Minimum overhead
- Scalable and flexible
- Simple to manage
- Secure transmission of data through Layer 2 networks
- Defense-grade and ultra-reliable 99.999% up-time data security

FPGA flexibility:

- Field Programmable Gate Array chip technology
- Provides cut-through architecture
- Enabling customization
- Hardware flexibility not enabled by ASICs

Our high-speed encryptor technology is used by governments, defense forces and commercial organizations in more than 25 countries.

The CN6040 is a versatile, simple to use platform that is user configurable to provide highly secure, full line rate transparent encryption over Ethernet or Fibre Channel.

CN6040 is versatile

The CN6040 provides a switchable Ethernet or Fibre Channel Encryption platform. It offers a highly secure, full line rate transparent encryption over either

- **Ethernet networks in point-point, hub & spoke or meshed environments**
  10/100/1000Mbps Ethernet layer 2 encryption for LAN/MAN/WAN

or

- **Point to point Fibre Channel networks at up to 4Gbps**
  1/2/4 Gbps Fibre Channel layer 2 encryption for data in flight across storage area networks (SAN).

CN6040 is scalable

With variable speed licenses up to 1 Gbps Ethernet or 4 Gbps Fibre Channel as the network grows and the 'Bump in the Wire' design make the CN60400 easy to install and highly cost-effective. "Set and forget" and transparency are underlying design themes, helping to ensure simplicity of implementation, operation and management, and reducing resource requirements to a minimum. The CN6040 ensures ultra-low latency for high performance:

- ≈8us at 1G Ethernet
- ≈1us at 4G Fibre Channel

CN6040 is secure

Certified to global certification standards (Common Criteria & FIPS 140-2 L3) the CN6040 is tamper resistant and employs automatic key management and is protected by robust AES 256-bit algorithms.

Metro Ethernet or Wide Area Ethernet Services:

With the pervasive growth of Ethernet services, CN6040 is the ideal solution for all organizations from small to large enterprises and government or service provider clouds.

The CN6040 addresses the need for highly secure, highly resilient wire speed encryption of Ethernet traffic across both dark fibre and metro or wide area Ethernet services.

Supporting over 500 concurrent encrypted connections, the CN6040 operates at full line speed without packet loss to ensure the confidentiality of encrypted data regardless of frame size or application.

The intrinsic key generation and distribution capability in CN6040 removes reliance on external key servers and provides robust fault-tolerant security architecture, whilst its rugged tamper resistant chassis gives uncompromising protection to key material held in the encryptor.

Full interoperability with the CN & CS series of encryptors means customers can standardize on one platform to secure data in motion across large hub & spoke or meshed networks from the branch to head office.

Specifications

Cryptography
- AES 128 or 256 bit key X.509 certificates
- CFB, CTR or GCM modes*

Performance
- 1 Gbps full duplex Ethernet encryption (< 8µs latency)
- 4Gbps full duplex Fiber Channel encryption (< 1µs latency)

Device management
- Dedicated management interface (out-of-band)
- Or via the encrypted interface (in-band)
- SNMPv3 remote management
- SNMPv2c traps
- SNMPv1 read only monitoring
- IPv4 & IPv6 capable
- Supports Syslog, NTP
- Alarm, event & audit logs
- Command line serial interface

Installation
- Size: 447mm, 43mm (1U), 328mm /17.6", 1.7", 12.9" (WxHxD)
- 19" rack mountable
- Weight: 8.5kg /18.7 lbs.

Interfaces
- SFP and RJ45 interfaces
- Front panel network connections
- Front panel LED display status indications
- Color backlit LCD display
- RJ-45 serial console
- Dual USB ports
- RJ45 LAN/AUX connectors

Power Requirements
- AC Input: 100 to 240V AC;1.5A; 60/50Hz
- DC Input: 40.5 to 60 VDC, 2.0A
- Power Consumption: 38W typical

Physical security
- Active/Passive tamper detection and key erasure
- Tamper evident markings
- Anti-probing barriers

Regulatory
- EN 60950-1 (CE)
- IEC 60950-1 Second Edition
- AS/NZS 60950.1
- UL Listed
- EMC (Emission and Immunity)
- FCC 47 CFR Part 15 (USA)
- ICES-003 (Canada)
- EN 55022 (CE)
- AS/NZS CISPR 22 (C-Tick)
- EN 61000-3-2 (CE)
- EN 61000-3-3 (CE)
- EN 55024 (CE)
- EN 61000-3-3 (CE)
- EN 55024 (CE)

Environmental
- RoHS Compliant
- Max operating temperature: 50°C /122°F
- 0 to 80% RH at 40°C/104°F operating

All specifications are accurate as at the time of publishing and are subject to change without notice.

Fibre Channel Services:

Providing highly secure, full line rate data encryption, the CN6040 is also the ideal solution for securing data in transit across Storage Area Networks (SAN's) at 1,2 or 4 Gbps.

Network and Management:

CypherManager (CM7) 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.

SFP optical interfaces allow operation over single mode fibre, multi mode fibre or over WDM services by choosing an appropriate wavelength.

Ethernet standards compliant, the CN6040 is fully interoperable with industry standard network equipment from leading vendors.

CN6040 Encryptor At-A-Glance

MODEL	CN6040	
Protocol	Fibre Channel	Ethernet
Speed	1,2,4 Gbps	1 Gbps
Protocol and application transparent	✓	✓
Common Criteria certified	✓	✓
FIPS certified	✓	✓
CAPS certified	N/A	N/A
Low overhead full duplex line-rate encryption	✓	✓
Ultra low latency for high performance	✓	✓
Front panel access for all interfaces	✓	✓
Support for external (X.509v3) CAs	✓	✓
Robust AES encryption algorithm	✓	✓
CRL and OCSP server support	✓	✓
Automatic key management	✓	✓
Flexible encryption policy engine	✓	✓
Encrypts Unicast, Multicast and Broadcast traffic	N/A	✓
Policy based on MAC address or VLAN ID	N/A	✓
Support for Jumbo frames	N/A	✓
Self-healing key management in the event of network outages	N/A	✓
Per packet confidentiality and integrity with AES-GCM encryption*	N/A	✓
Fibre Channel point-point encryption	✓	N/A
Smart network discovery and automatic connection establishment	✓	✓
Centralized configuration and management using CM7 or SMC	CM7	CM7/SMC
Remote management using SNMPv3 (in-band and out-of-band)	✓	✓
FPGA based cut-through architecture	✓	✓
Tamper resistant and evident enclosure	✓	✓
Dual swappable AC or DC power supplies	✓	✓
User replaceable fans and battery module	✓	✓
Fully interoperable with related CN/CS models	✓	✓

*Pending firmware release

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