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Universal Network Encryptor up to 100 Gbps

Centurion

- Strongest encryption technology available (AES256-GCM, 512Bit ECC)
- Perfect line protection – complete data flow via hardware crypto engine
- Securosys hardware key generator (HW-TRNG)
- Integrity and replay protection
- Traffic Flow Security, Packet Aggregation
- Tamperproof housing
- Wirespeed performance with minimal latency (<5us@10G)
- Carrier Ethernet (E-Line, E-Tree, E-Lan, VPLS, VPWS, MPLS-transparent)
- Ethernet, MPLS or IP-tunnel over any IPv4 and IPv6 network
- Easy network integration, no network infrastructure changes
- Autonomous, maintenance-free operation

Using our Centurion encryptors, you can easily and cost-effectively secure broadband multi-site communications. No network reconfiguring nor sacrificing performance is required. The native support of Ethernet and IP makes the devices ideal for all carrier Ethernet, MPLS or IP networks in any configuration: link, point-to-point, point-to-multipoint or mesh.
The mature and proven key management supports both paired keys as well as bi-directional group keys. It handles even the most complex network topologies with ease.

Encryption, key and signature exchange, are using the strongest available cryptographic algorithms with key strength of 256 bits. The random number generation for encryption key uses quantum effects. The partial keys of the asymmetric Diffie-Hellman key exchange are signed and encrypted with a 256 bit AES key, resulting in a quantum-computer safe key exchange. On top, the entire control plane is encrypted using authenticated symmetrical AES-GCM encryption at the native network layer. All processes, including key storage, take place in tamper-proof boxes, limiting any attack vectors.

Our Centurion encryptors combine the following secure items: device, data plane, control plane, and management plane. They provide a protection level of «High Assurance» and are the best choice for the protection of government and enterprise multi-site networks with high security requirements. For the most stringent security requirements, the Centurion encryptors also provide the option of traffic flow security, a mechanism that completely obfuscates network traffic. Centurion encryptors will secure your networks in a way that will leave any attacker frustrated. Uncompromising security. Reduced operating cost. Increased availability.

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Device Models

- Centurion H-Series H100M, H1G, H10G
  100Mbps/1Gbps/10Gbps throughput
  SFP/SFP+ interfaces
- Centurion F-Series F10G, F40G, F100G
  10/40/100Gbps throughput
  QSFP+ interfaces (100Gb Q2/19)

Encryption Technology

- AES-GCM (256 Bit) encryption methods (64/128 bit tag)
- Integrity and replay protection with Galois Counter Mode (GCM)
- Key generation by hardware based random number generator (HW-TRNG)
- Key exchange via Diffie-Hellman ECC procedure (DH-ECKAS)
- Compliant with the requirements of FIPS 140-2 L3 and CC EAL4

Performance data

- Ethernet (Layer 2) and IP (Layer 3) encryption in point-to-point, point-to-multipoint or multipoint mode, MPLS enabled
- Multi-tenant group encryption (max. 1000 peers)
- Real-time encryption in FPGA hardware
- Throughput independent of frame size
- Key changes without traffic interruption
- Latency: 100M< 50µs, 1G < 9µs, 10G/40G < 5µs

Key Management

- Ad-hoc authentication for registering remote sites
- Tamper-resistant key storage
- Emergency erase
- Built-in key server to distribute group keys
- Automatic change of connection keys at configurable time intervals

System Management

- Configuration via serial console (RS-232/V.24) or Secure Shell (SSH) network access (out-of-band Ethernet RJ45 10/100/1000 Base-T)
- Integrated monitoring of network status and operation
- Audit and event logging
- Log archiving/alerting via syslog
- Monitoring via SNMP (V2c/V3)

Network

- Compatible with E-Line, E-Tree, E-LAN, VPLS, VPWS and other Ethernet services
- Support for jumbo frames
- IP-Tunnel Modes: Layer 2 over Ethernet, IPv4 or IPv6 (IP or UDP header for NAT traversal)
- Throughput even with small packets over 97% of the bandwidth using frame aggregation (container mode)
- Link loss carry forward/optical loss pass through
- Traffic flow security mode prevents the analysis of encrypted communications
- Protection against active attacks (Denial of Service) through hardware-based packet filtering
- Simple and secure IPv6 support

Line Interfaces

100M/ 1G	SFP module for TP RJ45 and fiber
10G	SFP+ module for fiber
40/100G	QSFP+ module for fiber

Hardware

Ambient temperature	1°C-40°C
Humidity	10% - 85%, non condensing
Housing	430mm (19")x330mmx44mm (1U)
Power Supply	100-240V AC, 50-60Hz, ~95W (redundant, hot pluggable)

Tamper-resistant design

Options

- Rail extension set for 19" rack
- Optional licenses for TFS and IP
- DC Power Supply (36 - 72V)

Conformity

- CE, FCC
- FIPS 140-2 Level 3 in preparation

Designed and manufactured in Germany and Switzerland
We strive to continuously improve our offerings and therefore reserve the right to change specifications without notice.

EV1.4

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