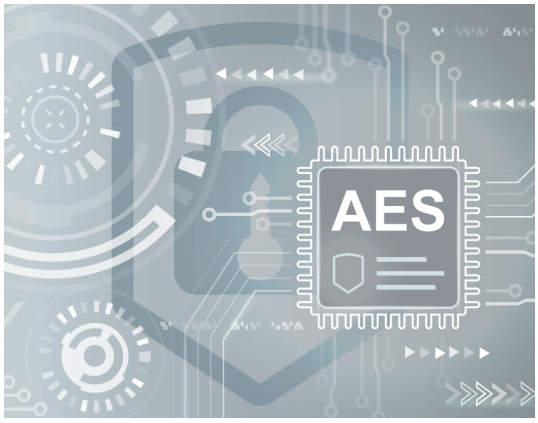
Encryption across OT and IoT Revolutionize Networking

UBIQUITIOUS ENCRYPTION
Flexible, affordable for all platforms and devices, making encryption easy to adopt

NETWORK PROTECTION
Encrypting data at the network layer enables AES encryption with patented key exchange ensures secure, high-speed communication

NETWORK SCALABILITY
Transform your FPGA into a high-performance, multi-functional network processing powerhouse, eliminating the need for separate network SoCs



- Bad Actors are involved in increased attacks on critical infrastructure and control systems
- Organisations need greater efficiency and automation in managing all sensitive data for their mission critical edge devices
- Any data communication needs to ensure greater security to prevent man in the middle and side channel attacks
- Need to reduce the data requirements on the cloud when using encryption

Security Challenges Faced by Companies

- Danish Train Standstill caused by cyber-attack in 2022. The software which was shut down provided train drivers with real-time information on speed limits and track maintenance information without which, drivers were forced to stop their trains
- 20 Trains sabotaged in Poland using cyber-attacks in August 2023 when hackers broke into railway frequencies to disrupt traffic
- Tesla charging stations had a spoofed Wi-Fi hotspot which could help steal customer credentials
- Several other data breaches have occurred since 2021 with other organizations, viz. banks such as HSBC and social media platforms such as LinkedIn

Key Drivers for Increased Security

- Create resilient networks for the edge ensuring safe communication between the edge and the cloud
- Ensure safety of data when being exchanged between control networks, service providers, customers and operation centers
- Compliance with appropriate standards

The Solution

- Use AES based encryption at the network layer
- Ensure it is interoperable with current standards such as MACSec, IPSec and SSL
- Eliminate the vulnerability of requiring key exchange using AI
- Zero latency during encryption process
- Zero format change as compared to current standards with miniscule AES IP

ANTHERUN®

AES Encryption IP

Pantherun AES Encryption IP provides advanced encryption capabilities to secure data transmission and storage in various applications, including IoT devices, edge computing systems, cloud platforms, and communication networks.

Supports key lengths of 128, 192, and 256 bits, providing flexibility to meet different security requirements. Optimized for high- speed encryption and decryption operations. Designed for low-power applications, minimizing energy consumption while maintaining high- perfomance encryption capabilities.

ENCRYPTION APPLICATIONS

- **Transportation Networks**
- **Cameras & Image Handling**
- **Internet of Things (IoT) Devices**
- **Edge Computing Systems**
- **Network Security Appliances**
- **Storage Devices**
- **Networks**

NETWORK IP APPLICATIONS

- **Industrial Ethernet**
- **Smart Grids**
- **Enterprise Networks**
- **Data Centres**
- **Carrier Ethernet Networks**
- **Video Surveillance Systems**

For more information on any of our products or services, please visit us on the Web at:
https://www.pantherun.com

Lithe Layer 2 IP

Pantherun's Lithe Layer 2 Gigabit Ethernet Switching IP is a comprehensive solution for building scalable and efficient network infrastructures. Designed to operate at the data link layer of the OSI model, the Lithe Layer 2 IP offers advanced networking capabilities. This enables the creation of a managed switch function on an existing FPGA device eliminating the need for a network controller.

With support for various networking protocols and features, the Lithe IP enables seamless connectivity, reliable data transmission, and efficient network management. The Lithe IP is available as a pure software implementation that supports processor architectures like X86, ARM and RISC and can be ported to OS like Linux, Windows, Android, and MAC/iOS.

Pantherun AES Compared

Description	MACSec	IPSec	SSL	Pantherun
Description	Pur Hardware	Software residing on hardware	Pure Software	Pantherun and/or Software
No drop in speed	✓	✓	✗	✓
Works Enterprise wide Cloud	✗	✓	✓	✓
Total cost of ownership(TCO)	Very very high	very high	very high	1/10 Very low cost
Retrofit legacy system	✗	✗	✗	✓
Avoid discernible patterns that makes it vulnerable to breaks	✗	✗	✗	✓
No Handshaking vulnerabilities	✓	✓	SSL	✓