SILEX INSIGHT

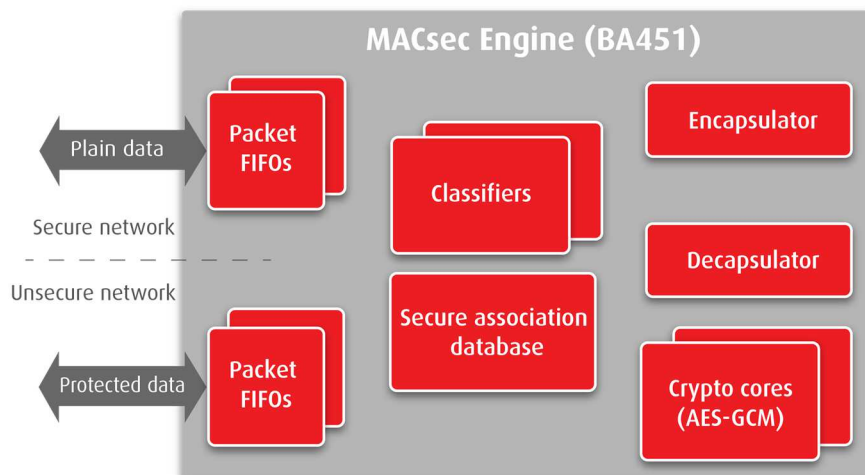# MACsec Engine: 10 Gbps to 800 Gbps

The BA451 is a very scalable engine implementing the MACsec standard for high throughput applications. In current networking technologies, source authentication, data integrity and confidentiality are becoming more and more important. There exist numerous software implementations for security protocol suites on nearly all OSI layers, but these implementations are not well suited for timing-critical, high throughput applications. On OSI layer 2 (data link layer), MACsec is the transport security protocol of choice.

FEATURES

- Can aggregate several 10, 40 or 100 GBE link
- Throughput from 10 Gbps up to 800 Gbps
- Supports AES-GCM-128/256
- Available for ASIC and FPGA
- Compliant with IEEE 802.1AE , 802.1AEbn and 802.1AEbw
- Datapath from 128 to 1024 bits
- Interface to TCAM
- SecTag add/remove
- ICV generation/check
- Classification
- Bypass mode

Implementation aspects

The BA451 IP core is easily portable to ASIC and FPGA. It supports a wide range of applications on various technologies. The unique architecture enables a high level of scalability enabling a trade-off between throughput, area and latency.

Deliverables

- Netlist or RTL
- Scripts for synthesis & STA
- Self-checking test-bench based on referenced vectors
- Documentation

APPLICATIONS

- Cloud computing
- Data center