# SILEX INSIGHT

IPsec Engine: 10 Gbps to 100 Gbps

The **BA454 is a very scalable engine implementing the IPsec 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 3 (network layer), IPsec is the security protocol of choice.**
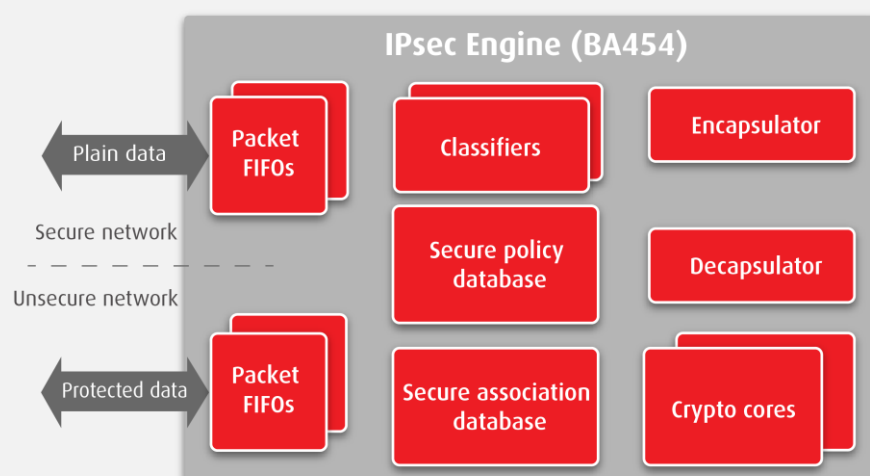
Implementation aspects

The BA454 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

FEATURES

- Can aggregate several 10, 40 or 100 GBE link
- Throughput from 10 Gbps up to 100 Gbps
- Supports AES-GCM-128/256, AES-CBC/SHA-2, ChaCha20 Poly1305 HP
- Available for ASIC and FPGA
- Compliant with RFC 4106, 4301, 4303, 7634
- Datapath from 128 to 1024 bits
- Interface to TCAM
- SecTag add/remove
- ICV generation/check
- 5-tuple classification
- Bypass mode

APPLICATIONS

- Cloud computing
- Data center
- Edge router
- Edge networking for IoT data aggregation