



*Offload and accelerate the analysis of networks and detection of threats*

*Perform many thousands of complex, parallel searches at line speed*

*Hardware-accelerated content inspection for security and data applications*

Helios RXP for ARM® is silicon IP designed for high-throughput, low-latency applications that require regular expression (RegEx) pattern matching.

It is a unique, fully scalable, hardware-accelerated solution for security analytics acceleration and content processing. The solution can be tuned for the desired combination of throughput, rule depth and complexity.

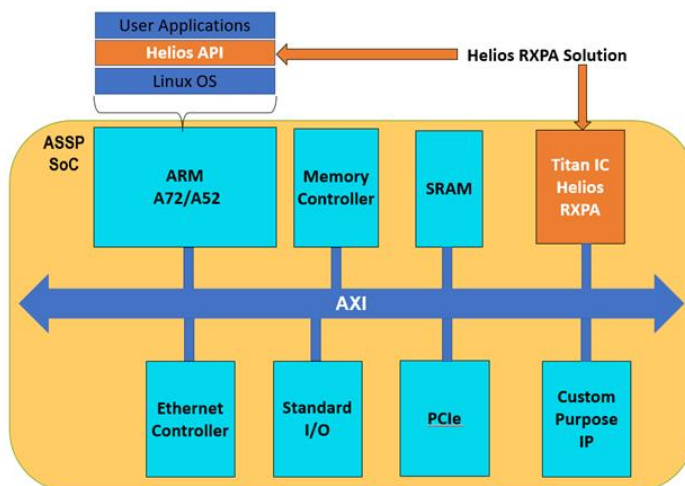
### HIGHLIGHTS .....

- **Accelerated Throughput** - perform complex data searches at speeds up to 100Gb/s
- **In-depth Packet Inspection** - complex and comprehensive pattern matching
- **High Capacity Content Analysis** - supports up to 1M RegEx rules using external DDR3/4
- **High Scalability** - scalable bandwidth from 5Gb/s to 200Gb/s
- **CPU Offload** - offload of data analytic functions from host CPU freeing up CPU cores and saving costs
- **High Throughput Performance per Watt** - reduced heat dissipation and operating costs
- **Easy Compatibility** - supports POSIX/PCRE compatible regular expressions to detect malware, enforce blacklists and run Snort or customer-defined RegEx datasets
- **Engineering Efficiency** - Supplied as a silicon IP block, reducing engineering effort, costs and time-to-market

### APPLICATIONS .....

- Security analytics acceleration
- Next Generation Firewall (NGFW)
- Intrusion Prevention System (IPS)
- Distributed Denial of Service (DDoS) Mitigation
- Data Loss Prevention (DLP)
- SmartNIC
- Network Monitoring
- Advanced auditing of user/application security policies
- Rule based content processing for spam, URLs and adware
- Financial data mining - parsing of streamed financial feeds
- Log File Analytics

## BLOCK DIAGRAM .....



## CAPABILITIES & RESOURCES .....

Helios RXP technology combined with an ARM® processor offers significant new capabilities on custom ASIC. It can be easily integrated using an ARM® AXI interface.

The comprehensive SDK includes:

- RXP Compiler
- Application Programming Interface (API) for plugin development
- Reference Applications
- Utilities

Helios RXP for ARM® can be configured for capabilities per instantiation in bandwidths ranging from 5Gb/s to 200Gb/s on 28 and 16nm technology.

RXP for ARM® Resource Requirements			
For 28nm technology at a core clock rate of 800 MHz			
Bandwidth	25Gb/s	50Gb/s	100Gb/s
Rules Capacity (up to)	1 million	1 million	1 million
Embedded SRAM	8 Mbits	16 Mbits	32 Mbits
Logic gates	0.3 million	0.6 million	1.2 million
Total Silicon Area	5 mm <sup>2</sup> (2 clusters)	10 mm <sup>2</sup> (4 clusters)	20 mm <sup>2</sup> (8 clusters)
Power	~1 W	~2 W	~4 W
External DDR	32-bit DDR3/4 (2GB)	64-bit DDR3/4 (2GB)	2x64-bit DDR3/4 (2GB)

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