HYPERION DEVELOPMENT KIT

Security Analytics Accelerator Development Kit

Hyperion Development Kit is the ideal tool for evaluating the power of Titan's core Regular Expression Processor technology (RXP) as an offload accelerator on a Xilinx FPGA platform.

The kit provides all that software engineers will need to develop bespoke applications using high speed regular expression (RegEx) pattern matching.

The kit can be used to create a wide variety of applications for Security Analytics Acceleration (SAA) and content processing which will free up Host CPU resources for other applications.

KEY FEATURES……

- Easy-to-use evaluation tool
- Card Bandwidth: 40Gb/s
- Supports up to 1 million rules
- Supports POSIX/PCRE compatible regular expressions
- Interfaces: PCIe
- Run-time partial ruleset update
- Sample rulesets
- Test your own RegEx

KIT CONTENTS……

PCIe Card
40G - Xilinx Kintex Ultrascale KU115 based
Form factor: ½ height, ½ length PCI Express Card
One bank of 2GB DDR3 SODIMM
Software
Hyperion Software Development Kit (SDK)
Application Programming Interface (API)
RXP rules compiler
Example utilities written in C Code
Job generator / Expected match generator
Support
13 in depth tutorials and extensive documentation
8 hours Application Engineering support via telephone, email, skype (UK office hours)

Optional Dell Server

The kit can be supplied with an optional Dell server preconfigured and tested with the Hyperion PCIe card.

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TUTORIALS.....

Tutorial	Big Ideas and Concepts
Introduction	Harness the processing power of the Regular Expression Processor (RXP) by using the compiler (RXPC) and accompanying evaluation and validation utilities, encapsulated in our Hyperion Reference Application (HRA)
Set up Jobs	Take control of your data by using the Regular Expression Job (RXPJ) Utility within HRA to create tailored test data using matches extracted from your rules file. Can scan multiple job iterations to test throughput accurately and runs across multiple cores.
Job Size	Size of job data submitted to the RXPJ can be changed to fit performance and hardware requirements.
L7 as a Complex Ruleset	The complex open source L7-filter RegEx ruleset can be run on the RXP to demonstrate the performance implications of increasing rules complexity and positive matches.
Complex rulesets and performance	Several different styles and complexities of rulesets are shipped with the HRA to demonstrate situational throughput and the user options available if computationally expensive rules are detected.
ClamAV	The complex string-based ClamAV ruleset is included to show how the compiler optimises rulesets with many unique prefixes.
URL Blacklist	This URL-based ruleset is included to demonstrate the performance of the RXP when processing many shared prefixes.
Binary data	Large binary files can be scanned at speed using the HRA File Scan application by breaking the data into small, manageable jobs of a size specified by the user.
Works of Shakespeare	Use the HRA File Scan application in a real-world setting to scan the complete works of William Shakespeare for specific words.
Internet Packet Capture (PCAP)	A PCAP (Packet Capture) file can be easily converted into a jobset that can be scanned using the RXP.
Add rules on the fly	The HRA application can be used to update rules on-the-fly whilst scanning a jobset using the Run-Time Rules Update (RTRU) feature.
Priority rules	Prioritise rules in order of importance before scanning a jobset within the HRA, using a High-Priority Match flag.
Cross Packet Matching	Perform Cross Packet Inspection by the RXP, using the HRA Packet Scan application as a demonstration utility.
Tutorials	These tutorials are supplied with the Hyperion Kit as source code.

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