MoSys Newsletter
Accelerating Data Intelligence
Everything Intel: Focus on IFTD
www.mosys.com
Vol 2 No. 5, Nov. 2021

A Message from MoSys CEO

Welcome to another edition of the MoSys newsletter. In this special edition, we focus on one of the hottest tickets in town, the Intel IFTD event being held Dec. 6-9, 2021.

Exciting news, MoSys will be presenting at the upcoming Intel® FPGA Technology Day. The full four day event will cover, “Accelerating a Smart and Connected World” with each day centered around a technology theme:

- Day 1: Technology – FPGAs in a Data-Centric World
- Day 2: Cloud and Enterprise – Data Center Acceleration
- Day 3: Embedded – Smart Embedded Solutions Accelerating the Market Transformation
- Day 4: Networking – 5G – The Need for End-to-End Programmability

MoSys will be presenting on Day 4, Thursday, Dec. 9, and will cover: MoSys Accelerators for Intel FPGAs and how they can help solve the pain of the growing 5G, Cloud Data Center and IoT device connectivity demands.

In the session, MoSys will discuss three of its product families:

- **MoSys Stellar** Packet Classification platform IP for Intel FPGAs that can leverage the P4 language to search and classify packet headers as an alternative to TCAM functions
- **MoSys Quazar** memory ICs
- **MoSys Blazar** Accelerator Engine ICs

We sincerely hope you will join us at this ground-breaking event. To register: LINK

Dan Lewis
CEO, MoSys, Inc.

Latest News Alerts!

Company

MoSys to Present at Upcoming Intel FPGA Technology Day on 9 Dec 2021
Networking - 5G – The Need for End-to-End Programmability

MoSys and Peraso Technologies Announce Definitive Agreement for Business Combination

Stellar

MoSys Announces Optimized P4 Pipeline Support for Stellar Packet Classification Platform IP for FPGAs

MoSys Expands Patent Portfolio with Purchase of Custom Algorithm Search Patents

Blazar & Quazar

MoSys Silicon Chosen by APS Networks to Help Telcos Boost Number of Subscribers for Broadband Network Gateways

MoSys and Arrow Electronics Collaborate to Optimize System Memory on FPGA Designs

LineSpeed

MoSys Announces New, Low Price Point for Its LineSpeed™ Flex 100G PHY IC Product Family

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The 5G Challenge

Problems facing customers in 5G deployment these days include:

- 5G and cloud data centers are changing everything
- 30 Million new 5G base stations to be added in the next 5 years
- 9X increase in overall wireless traffic 2020 – 2030
- 70 billion connected devices by 2030
- New near-real time or real-time apps being added to the network
- Required latencies pushing below 1 mS
- Not enough time for a packet to even travel to the cloud and back

Possible solutions run the gamut from:

- Building massive data centers locally
- Finding ways to have packets travel to and from the cloud faster
- Finding ways to move more data over the limited airwaves i.e., mmWave RF
- Replacing IPV4 at a quicker pace and create a more logical approach to routing
- Creating new ways to manage traffic flows at lower latencies

The MoSys Solution

MoSys has created new ways to manage traffic flows at lower latencies with a proven family of FPGA accelerator engine ICs. In addition, our new Virtual Accelerator Engine IP can classify packets at line rate and achieve new performance levels – 100s of gigabits per second.

The solution can handle:

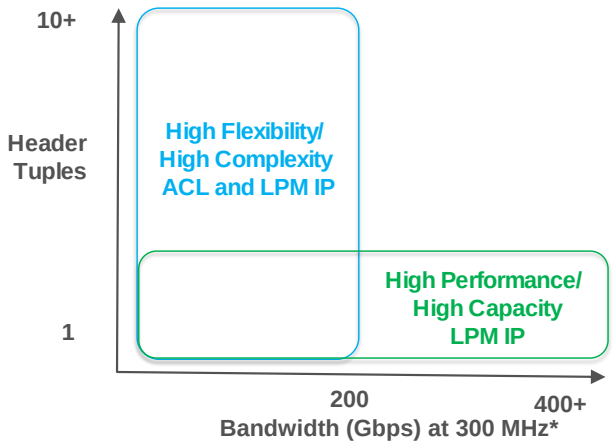
- The Millions of rules required to manage so many devices
- The Millions of routes required to route virtual flows
- Extra security through millions of complex Access Control Lists

All of this is done in parallel, which greatly reduces latency.

Ours is a solution based on proven Intel® FPGAs – ultimately an easy plug-in solution.

For more information, please check out our library of use cases: LINK

MoSys 5G white paper: LINK



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MoSys Stellar Packet Classification IP Demystified

So, just what is the MoSys Stellar Packet Classification IP all about?

- Ultra-High-Speed Search Engine IP for FPGA
- With an Advanced TCAM-like compiler (Ternary Content-Addressable Memory)
- Optimized for Intel® Agilex™ FPGAs and Intel® Stratix® 10 FPGAs
- Supports TCAM-like functions
  - 10+ tuple Access Control Lists (ACLs)
  - Longest Prefix Match (LPM)
- Multigigabit TCAM equivalence of millions of rules – very wide TCAMs
- Supports a wide range of Internal SRAM and external high-speed memories
- Based on MoSys Graph Memory Engine (GME)
- Very fast rule updates, all atomic, so no need to stop traffic

The Use Case for MoSys Stellar Packet Classification IP

Typical Deployment Platforms use Intel's SmartNIC or Infrastructure Processing Unit (IPU) adapters, Intel® FPGA chip-down designs or Intel® Tofino™ switch-based platforms.

Use Cases that are Ideal for MoSys Stellar Packet Classification IP include:

Routing
5G UPF and Wireline, MEC, Enterprise Private Networks, Carrier-Grade NAT, BNG (Broadband Network Gateway), Network Classification, Flow Steering, Cloud Gateways…

Security
Network Firewall, DDoS prevention, Allow/Deny Lists, Network Detection and Response, Anomaly Detection, Lawful Intercept…

Load Balancing
Application Delivery Controllers (ADC), L4 Load balancing…

Traffic Analysis
Application and Network Analysis & Telemetry, Test and Measurement…