MERCURY
COMPUTER SYSTEMS™

POET™ – Protocol Offload Engine Technology

Multi-Fabric Open-Standard Connectivity Tool Optimizes Flexibility, Portability, and Performance

- **Provides intelligent bridge between industry-standard fabrics**

- **Improves networking and I/O performance, while providing easy upgrade path to future technologies**

- **Facilitates microprocessor-independent, scalable design**

- **Eliminates need for additional hardware, improving SWaP and reducing costs**

- **Allows user customization for value-add with modular, highly configurable design**

Facilitates High-Bandwidth, Low-Latency Communications

POET™ (Protocol Offload Engine Technology) from Mercury Computer Systems is a collection of open-standard technologies that provides interconnectivity among boards, systems, and sensors for Intel® and other microprocessor-based subsystems. POET, through its low-latency and high-bandwidth characteristics, enables scalable, high-speed, and deterministic communications and I/O. Through its flexibility and versatility, the POET interconnect efficiently extends the capabilities of an Intel-based subsystem.

Enables Mixed Backplane Communications with Open-Standard Architecture

Because it is open, flexible, and multi-protocol, POET simplifies system design by reducing the range of products required to build a system. Also, due to its downloadable and flexible nature, POET provides support for mixed backplane systems consisting of RapidIO® and 10 Gigbit Ethernet. For example, one system can support a mixed RapidIO and PCI Express® backplane, allowing users to create the best size, weight, and power (SWaP) solutions by choosing the best processing cards regardless of backplane fabric.

Currently, POET provides support for serial RapidIO and 10 Gigabit Ethernet, with plans for 40 Gigabit Ethernet and other standards-based protocols.

Improves SWaP and Enables User Customization

POET contains a versatile and flexible downloadable FPGA firmware area, which allows customers to integrate their value-added firmware, such as packet inspection, DSP processing, security, and other applications. Using the customer's application, POET then aggregates, processes, and disseminates data.

This user-programmable area represents a SWaP and value improvement for Intel-based subsystems, because it mitigates the need for additional hardware. POET's standards-based networking and I/O Interfaces protect investment in customer applications and provide an easy migration path for higher performing standards-based networking and I/O technologies.

POET seamlessly integrates into Mercury's MultiCore Plus® software suite, providing robust configuration and debugging tools.
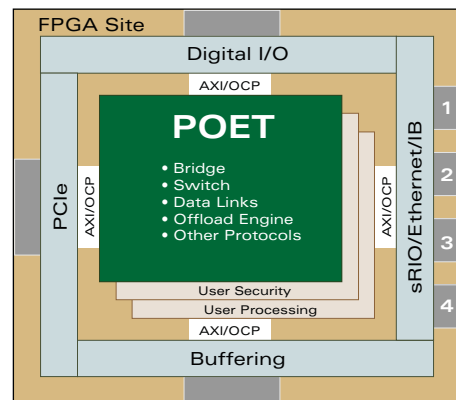

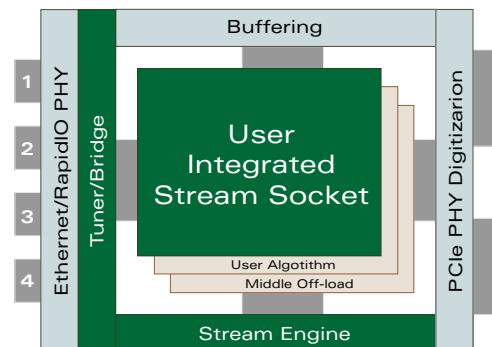*Figure 1*. The open Poet interconnect bridges from SRIO and other fabrics to PCIe

Figure 2. The User Integrated Stream Socket accepts user IP for product differentiation

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