Unleashing Speed

High Performance in HFT with Hybrid FPGA and Software Solutions

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AMD Adaptive Computing Partner PREMIER

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Why Hybrid Solution?

01

FPGAs accelerate specific functions and algorithms, while the CPU handles general-purpose and complex trading algorithms.

02

Balance the flexibility of software-based solutions and the performance of hardware-based solutions.

03

Highly flexible and easy to customize, resulting in ultra-low-latency performance tailored to trading needs and preferences.

All-FPGA:
Ultra-low latency but higher upfront costs.

All-CPU:
Moderate cost, versatile, but may sacrifice latency.

How to Unleash ULL Performance

Divide for ULL performance

SOFTWARE

- Better suited for complex processing tasks
  - Market handshakes
  - Algorithmic processing/AI
- Faster development cycles

FPGA

- ULL Protocol engines (TCP/UDP)
- OCA for preprogrammed transactions (cancellations, orders)
- OCA for symbol caching

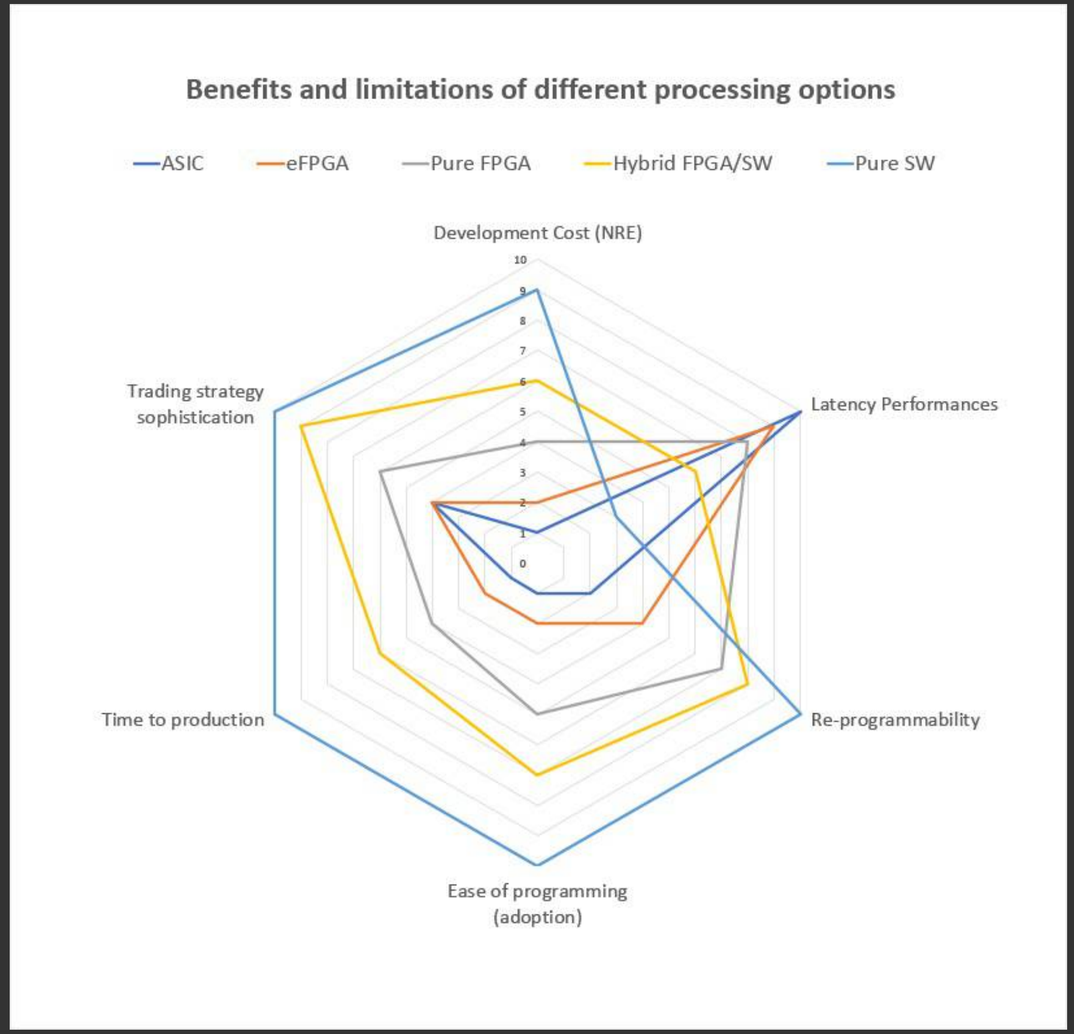
ULL FPGA Framework

Innovatively resolve the trade-off between speed and flexibility in ultra-low latency systems.

Utilize your current infrastructure as you transition to a more updated platform.

SOFTWARE | Hybrid | FPGA

Ensure that your system maintains high-performance levels over time while making it easy to upgrade without disrupting existing operations.



ULL FPGA Framework

Overview. / Features Functions

10G Ethernet MAC/PCS

16b
- Wire to Wire Round-Trip Latency
- **20.2ns**

32b
- Wire to Wire Round-Trip Latency
- **34.1ns**

ULL TCP/IP, UDP/IP Offload Engine

Hardware acceleration

- SoP=SoP
- 6.2ns Tx

ULL PCIe DMA Controller

Bidirectional data transfer

- Roundtrip Time Under
- 640ns

Full RTL implementations

- Layer 2,3,4 (ARP, IPv4, ICMP, TCP, UDP)
- FPGA development and simulation environments
- Alveo x3522pv reference design
  - Support Xilinx Ulrascale+ FPGAs

Summary

Meet our team at our table

Discuss your applications and how the Orthogone Framework may help

Contact Us for 30/60 days evaluation license

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