INTRODUCTION
A fully featured open source and license free HLS hardware & software trading solution reference design. Give your developers a head start to create their own hardware-accelerated algorithmic trading platform.

PRODUCT OVERVIEW
> Alveo U50,U250 boards with Vitis tools and libraries
> Migration from software algorithms to hardware
  • Dataplane entirely in hardware
  • Dataplane in hardware with pricing algorithm on host
> Baseline from which users can develop solutions

- CME “Market by Price” scheme:
  • CME Feedhandler, Orderbook
  • Two Pricing Algorithms
  • Order Entry templated trades
- 10GbE UDP, TCP, IP(v4) in FPGA
- Data Transfer to host CPU
- Debug and diagnostic features

Quick Start Package provides:
> All HLS,C++ source code
> FPGA image (XCLBIN)
> PCAP input and output files
> Build automation tool
> Comprehensive user guide

Adaptable. Intelligent.
DATA TRANSFER WITH HOST

> Supports trading algorithm on host CPU
  • Order Book pushed from FPGA to host
  • Trading request pushed from host to FPGA
  • XDMA transfer of data

> Data mover kernel
  • Ring buffers in Alveo Memory.
  • Data source updates tail pointer of buffer
  • Data receiver monitors tail pointer to detect new data available

SOFTWARE OVERVIEW

> Algorithmic Trading Ref. Design application
  • Configuration of trading and IP address parameters
  • Software Trading application (if required)
  • Calls APIs on driver layer
  • Recovers diagnostic and debug information

> User Interface (Command line shell)
  • Command shell provides easy interface with help functionality.

> Driver layer (User space)
  • API Control of each hardware block
  • Exposes functionality of hardware

> Hardware I/O Layer
  • All communication with hardware
  • Download image XCLBIN to FPGA

> XRT (Xilinx Run Time)
  • XRT is a combination of userspace and linux kernel driver components
  • XRT provides a standardized software interface to the FPGA

TAKE THE NEXT STEP

Request Lounge Access: https://www.xilinx.com/member/forms/registration/fintech.html
Reach out to your local sales rep or contact fintech-contactus@xilinx.com

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