SOLUTION BRIEF

Xilinx Quantitative Finance Library

INTRODUCTION
Financial institutions require innovative solutions to meet increasing compute demands in trading and risk management. The Xilinx® Quantitative Finance Library provides enhanced functions and pre-built pricing models to allow developers to quickly build accelerated computational solutions while lowering the TCO.

APPLICATIONS AND USE-CASES:

- Monte Carlo-Based Pricing Models
- Closed-Form Solutions
- Finite Difference Based Pricing Models
- Counterparty Credit Risk Analytics
- Regulatory Risk (FRTB, CCAR, RWA)
- Trade / Portfolio Risk
- Portfolio Optimization
- Pre-Trade Risk Checks
- Scenario / "What-If" Analysis

WORKLOADS | DESCRIPTION
---|---
Derivatives Processing | Pricing, risk sensitivities, calibration, and back-testing
Counterparty Credit Risk | Credit Valuation Adjustment (CVA), Standard Initial Margin Model (SIMM), Potential Future Exposure (PFE), Risk Weighted Assets (RWA)
Scenario Analysis | Stress testing, CCAR, complex "what-if" scenarios
Portfolio Optimization | ADMM models
Market Risk | Value at Risk (VaR), FRTB, stress testing
Risk Analytics | Risk modelling (credit models, simulations)

SOLUTION OVERVIEW
The Xilinx Quantitative Finance Library is available as C++ API calls, or can be used as a reference design for developers to modify.
KEY BENEFITS

> No prior knowledge of hardware language necessary to build applications
> Rich set of primitive functions to support a variety of applications
> Shorter development cycle
> Open source approach
> Pre-optimized set of libraries for high throughput and low power utilization
> Supports both Vitis™ and Vivado® HLS tools

LIBRARY STRUCTURE

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LIBRARY CALL EXAMPLE

TAKE THE NEXT STEP

Get started on Xilinx Alveo™ with the Xilinx Accelerator program
Learn about Xilinx solutions for the finance industry
Learn more about Alveo accelerators