Customer Overview

SciFinance®

Reduce development time, costs and risks with SciFinance®. Other providers may promise 'no programming', but SciFinance delivers.

SciComp

SciFinance®

SciFinance® is software for building derivative pricing models in a fraction of the time required by traditional methods, including libraries. Using a very high-level programming language (VHLL) for describing financial instruments and advanced numerical techniques, SciFinance eliminates the programming task by automatically translating concise, keyword-rich, high-level model specifications (underlying model dynamics, contract provisions, numerical methods, sensitivity measures, etc.) for nearly any financial derivatives into fully documented C/C++/CUDA pricing model source code. There are no run-time licenses and a multitude of interface options.

Developed by SciComp, a leading provider of derivatives pricing models and risk management consulting services for over 15 years, SciFinance reflects input from practitioners at top tier institutions worldwide. Providing robust, comprehensive all asset class support, SciFinance's flexible modeling architecture offers complete model transparency and is ideally suited for:

- Implementing proprietary trading and arbitrage strategies
- Hedging risk exposure
- Model validation
- Financial service providers

Implementing Proprietary Trading & Arbitrage Strategies

Customers seeking to shield the proprietary nature of their trading strategies through internal model development find that SciFinance leverages in-house developers by an order of magnitude. With access to hundreds of customizable, industry-proven examples as a starting point, a financial engineer can create custom models in minutes.

SciFinance allows quants to focus on trading strategies rather than spending time with rote programming of models. Other providers may promise 'no programming', but SciFinance delivers. Yet, because customers can make all the modeling decisions, (drill down as far as you wish or default these decisions) no two groups are likely to produce the same model.

Optimally Hedge Risk Exposure

Customers looking to implement market standard pricing models for use with their portfolio/risk management systems find that SciFinance provides a cost effective, easy to integrate, transparent and flexible modeling architecture.

Given that all SciFinance provided pricing model examples are completely customizable and composable, customers can tailor these models to meet their particular modeling needs and requirements. Modeling decisions such as the choice of underlying dynamics, which market data to use and its format, what sensitivity measures to compute and how, etc., are all under a customer's complete control.

SciFinance provides a suite of products that automatically generates wrapper code and associated projects and test frameworks (e.g., Excel Java, .Net, COM, Python, etc.) for any SciFinance generated pricing code, facilitating testing and integration of pricing models with in-house or third party applications.

Model Validation

Customers tasked with internal model validation responsibilities find that SciFinance provides a cost effective solution for comprehensive pricing model validation. SciFinance allows rapid validation of existing models via alternative techniques, e.g. underlying model dynamics (a nearly limitless variety of partial differential equations and stochastic differential equations is supported), numerical methods, solvers, finite difference schemes, Monte Carlo discretizations, sensitivity measures, etc.

In the vast majority of validation tasks where the dynamics are of low dimension, MC models can be validated against PDEs and visa versa in minutes.

SciFinance provides a quantitative analyst full control over the implementation of the pricing model and complete model transparency. SciFinance contains no "black box" components. All pricing model libraries included in SciFinance are provided as source code libraries and are open to customer review and inspection.

SciFinance generated pricing model source code is modular and richly commented.

Financial Service Providers

Customers looking to offer derivatives valuation, portfolio management and other risk management services find that SciFinance provides comprehensive, all asset class support and ideal starting points for implementing their derivatives pricing models.

With access to hundreds of customizable, industry-proven examples as a starting point (all examples completely customizable and composable), a single financial engineer can create custom models in minutes.

SciFinance provides robust calibration functions for many industry popular pricing models. In addition, there is a model calibration development framework available for customers looking to implement custom calibration functions.

Optional components of SciFinance automatically generate CUDA or OpenMP-compliant source code for any Monte Carlo pricing models, (PDE pricing models are parallel computing enabled on a consulting basis). By adding the keyword CUDA or OpenMP to existing single threaded model specifications, SciFinance automatically generates parallelized pricing model source code that can be run on NVIDIA GPUs or multi-processor machines CPUs. No CUDA or parallel programming skills required.

SciFinance-generated code can be seamlessly integrated with trading and risk systems. The process is made completely automatic by the SciIntegrator™ module. By simply adding a keyword to the model specification, financial engineers can automatically generate Microsoft Excel, COM, .NET, Java or Python interfaces (customized interfaces are also available). SciFinance does not impose proprietary data models to hinder code integration by requiring wasteful data container translations.

For Further Information:

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