

Business Case Study

# RISKVAL'S PRE-TRADE ANALYTICS AND PORTFOLIO SERVICE FOR PINE RIVER CAPITAL MANAGEMENT



## Introduction

RiskVal Financial Solutions, a New York-based global supplier of Software as a Service (SaaS) for risk management, portfolio management, and trading strategies, draws on its 15 years of experience to serve tier-1 and tier-2 banks, ALMs, and hedge funds worldwide.

RiskVal analyzes the complex dynamics of the market, creating top-of-the-class analytical solutions to help traders identify trading opportunities. Over the last decade, RiskVal's solutions have become an integral part of the trading desk, with hundreds of traders relying on them to stay ahead of the market and generate alpha for their portfolio.

Pine River Capital Management (PRCM) is a global hedge fund founded on the values of intellectual honesty, uncompromising improvement, and pursuing common purpose with its clients and partners.

When PRCM started their liquid rate fund back in 2011, RiskVal immediately deployed its fixed income relative value (RVFI) solution to enable portfolio managers to build up their portfolio and trading strategies. PRCM urgently needed a portfolio system that could provide \*real-time\* PnL and risk management functions, as well as organize its portfolio based on trading strategy/sub-strategy/group, rather than traditional flat by product portfolio, such that portfolio managers could easily track its risk profile and PnL performance. To address these needs, RiskVal introduced its "RVPortfolio" solution.

This case study outlines how in the past 5 years, RiskVal worked together with PRCM to assist its Liquid Rate Fund in becoming the best performance fund of the last few years.

## Challenges and Solutions

### Pre-Trade Analytics:

RiskVal's RVFI solution is known for its G30 pre-trade analytics and comes with 200+ pre-built trading strategies. PRCM's portfolio managers were able to utilize the solution immediately and generate solid PnL. As the complexity and number of strategies increased, PRCM needed RiskVal to customize a trading alert framework to manage its active strategies efficiently. RiskVal developed the alert framework to enable portfolio managers to monitor 500+ active trading strategies on various analytic levels, such as "yield spread", "asset swap spread (ASW)", "OIS spread", and "invoice spread".

RiskVal enhanced many trading strategies to enable traders to run "scenario analysis", "multi-strategy regression analysis", "curve performance analysis", "historical performance analysis" etc, such that RVFI became a powerful pre-trade analytics tools for the portfolio managers to always pick up the best strategies for trading and understand the relationship with various risk components. In 2012, RiskVal added a complete short-end trading strategies framework for PRCM, such that portfolio managers could utilize the same analysis for basis swaps, FF/ECB/MCP fed

meeting dates, IMM dates rate, and vol trading strategies.

In 2015, when the EUR and JPY moved to a negative rate environment, RiskVal was able to migrate many trading strategies from the log-normal to normal model. This was enormously helpful as the lognormal model couldn't handle negative strike swaptions or interest rates.

Overall, the RiskVal team kept in close contact with portfolio managers to understand their challenges and needs, and then worked efficiently to create solutions to address these needs.

## Portfolio PnL and Risk Management:

### Life Cycle Management:

One of the biggest challenges for portfolio PnL and risk management services was that PRCM's in-house book/record system didn't have a solid trade life cycle management function. This meant that RiskVal needed to assist PRCM's back-office team to define the life cycle management to handle new trades, cancel, amend, and full/partial termination, with respect to each trade type.

### Portfolio Hierarchy:

RiskVal needed to expand the back office book/record to have a strategy, sub-strategy, and group concept, such that portfolio managers could view their risk and PnL according to their actual trading strategy.

### Portfolio Size:

Very quickly, the fund grew into 15000 line items, which became a challenge to calculate real-time PnL and risk. RiskVal deployed Cloud technology, parallel-processing the calculation to achieve the performance target. RiskVal also introduced the user-control trade-collapse function and back-end periodical trade compression technique to reduce the line items.

## Market Data:

As market data is a serial time-data stream, simply taking the market data for calculation will produce a volatile intraday PnL. This is particularly true for the Liquid Rate market. RiskVal developed various synchronization mechanisms to handle market data consistency for basis trade, calender roll, and ASW trade structures. This technique produced a very reliable PnL and risk result for portfolio managers, such that they could fully rely on the system to handle portfolio management functions.

## EOD Mark to Market:

As PRCM is a global G10 fund, RiskVal has to deal with several market segments, such that it needed a precise EOD M2M function to ensure the EOD marks were correct, and to stop production of additional PnL results after EOD M2M time for each market segment. This obviously applies to handling the multiple-region holiday calendar as well.

## Bloomberg B-pipe:

RiskVal leveraged its partnership with Bloomberg, introducing B-pipe as its market data backbone to handle various market data requirements. RiskVal was one of the first vendors to introduce a "user-authentication" model with Bloomberg B-pipe, such that the firm dramatically reduced the entitlement complexity for the market data team.

## Results/Conclusion

Over the last 5 years, PRCM and RiskVal created a wonderful business relationship built from mutual trust. PRCM continues to grow its fund and expand different trading strategies through RiskVal's solutions. RiskVal also benefits from this partnership by continuing to refine its solutions. In 2016, RiskVal was awarded both "Best Market Risk Solution Provider" and "Best Portfolio Management System Provider" in the Waters Rankings, which are great honors to receive from a very competitive financial service provider industry.

---

## Pine River Capital Management Testimony

"We had a very positive experience using RiskVal's portfolio and pre-trade analytics platforms. We managed to start trading very quickly, as RiskVal's external solution offered a robust and reliable platform from the first day of operation. The customer service and dedication is not only impeccable but also accessible around the clock. Highly Recommended."

Renos Dimitriou - Portfolio Manager - Pine River Capital Management

---

## About RiskVal

RiskVal Financial Solutions is a global supplier of Software as a Service (SaaS) for risk management, portfolio management, and trading strategies. RiskVal's solutions leverage real-time market data and over ten years of historical data along with high-speed analytics, which gives traders and portfolio managers a true picture of changing market conditions.

The company provides superior round-the-clock weekday customer support service to tier-1 and tier-2 banks, ALMs, and hedge funds collectively totaling more than 300 active portfolio managers. The utilization of SaaS technology and integrated service, ensures all offered solutions are cost effective. RiskVal has successfully integrated its clients' experiences and expertise into the RiskVal Financial System for pricing, portfolio management, and risk management.

The RiskVal System covers fixed-income, credit derivative, equity, foreign exchange, and derivatives securities. RiskVal is differentiated from its competitors through its exemplary customer service, precise financial engineering, and innovative solutions. Its headquarters are located in New York.

For more information about RiskVal, visit [www.riskval.com](http://www.riskval.com)