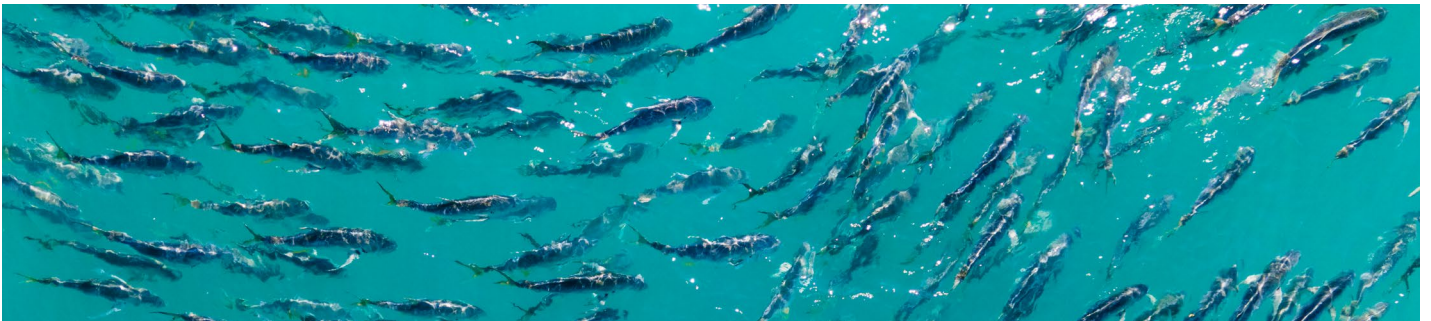


# Delivering on the promise of interoperable tech for investment management



Are institutional investment managers positioned well for the future with their current technology deployment strategies? Secular trends towards passive and systematic investing, competitive fee pressures, the increased complexity of demands from clients, and structural market and regulatory changes are forcing C-suite executives to continually evaluate their core technology stacks. How firms respond to these headwinds will be a leading indicator of their success over time.

The pandemic has underscored—and accelerated—the potential for technology to redefine industry-wide infrastructure and to further scale operating models. Just a few years ago, front-to-back platforms took center stage as asset managers sought all-in-one solutions that would attempt to simplify their technology landscape and cover more of the investment lifecycle with fewer providers. However, it soon became clear this approach presents its own set of issues.

All-in-one platforms are often too rigid to cater to the needs of unique investment processes and workflows. Closed ecosystems can constrain organizations, as they often translate into lost access to the functionality, data sets and operational flexibility that come with standalone point solutions and/or proprietary applications. Firms are generally forced to adopt that particular all-in-one vendor's priorities and development queue and are likely to further sacrifice operating choice and flexibility over time.

The principles of openness and interoperability are central to our investment management platform, thinkFolio. While focusing on our core competencies of portfolio modelling and order management, we recognized early the importance of empowering portfolio managers, traders and the wider front office to work with best-in-class providers across the investment lifecycle. It is fascinating to see how the consensus in the industry has now shifted decisively in this direction and to consider how much we have already delivered against this strategy.

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## Sea change

On a perpetual basis, nimble and innovative financial technology firms continue to come to market with sophisticated, specialized applications. Their success along several phases of the investment lifecycle has challenged the closed, front-to-back model, as users have increased their demands for access to the latest capabilities on the market. The result is a major sea change, with many established providers now attempting to open up their architectures and entering the race to build integrations with these solutions.

We anticipated this turn of events several years ago and decided that thinkFolio would best serve our clients as a cohesive platform with an infrastructure built to support the emergent, market-leading workbench tools, data and analytics from the fintech ecosystem. We selected this track understanding that investment management executives ultimately want to provide best-in-class capabilities for key personas driving their business. The overarching objective is to support each stakeholder's workflow and to integrate them in a way that reduces inefficient context-switching, while simultaneously dampening the operational overhead that has historically accompanied supporting multiple applications.

Rather than attempting to re-invent the wheel for each stage of the lifecycle, we saw an opportunity to develop an integrated ecosystem and platform composed of the most innovative, specialist solutions that are leaders in their respective domains. This has allowed us to increase our focus on our core competencies and to accelerate our own development in these segments rather than being pulled in many different directions.

Through this initiative, we have developed an extensive network of partnerships to leverage across the investment lifecycle—from portfolio construction and pre-trade risk analytics through to post-trade operations and performance attribution. This integrated network provides clients with the clarity and visibility they need to make accurate decisions, mitigate risk and maximize cross-functional user productivity.

## Elegant integrations

All of our current and planned integrations have been carefully chosen and executed to ensure clients have a truly interoperable experience leveraging our AWS-hosted managed service. This means going well beyond simply exchanging data across platforms. Instead, we work to harmonize content and workflows so that users can gain tangible efficiencies when accessing the tools that best fit their business. This is important because, as the shift towards the open API ecosystem continues, we believe the quality and elegance of these integrations will emerge as a major differentiating factor.

Buy-side firms will have to compare the various solution options and consider the following: Which platform offers the most compelling total cost of ownership proposition? Which platform has a truly open architecture that facilitates complementary third-party and proprietary augmentations across the lifecycle? And which platform has been integrated in a way that truly supports workflow interoperability and user productivity?

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## Proof in the partnership ecosystem

With a joint solution value proposition in focus, we have made significant strides with our partners in delivering this platform vision.

Exciting partnerships with MSCI and CloudAttribution underscore our commitment to an interoperable platform that delivers the critical risk/return paradigm to common client desktops. thinkFolio's alliance with MSCI, a market leader in risk modelling and analytics, will allow mutual clients to incorporate multi-asset class factor models and analytics to support their portfolio construction and risk management processes. Meanwhile, our partnership with CloudAttribution will allow clients to flexibly decompose and evaluate portfolio performance for a variety of cross-asset institutional investment strategies, including ESG.

Within the trading domain, while thinkFolio carries an extensive native connectivity footprint, we also maintain relationships with leading cross-asset execution management systems and pre-trade liquidity aggregation and analytics solutions. Our objective with our alliances in the execution space is to provide context-aware, cross-application workflows that enhance productivity

and enrich intelligence and communication between portfolio managers and traders. For example, thinkFolio users can now leverage Lucera's LumeALFA Analytics engine to interactively target, query and track specific bond liquidity opportunities to support portfolio construction, rebalancing and relative value analyses.

Our framework also extends to delivering operational alpha opportunities in the form of front-to-back alliances. The partnership between thinkFolio and Northern Trust, for instance, will provide an integrated offering that delivers our front-office functionality with a leading suite of cross-asset operational outsourcing solutions and services. We are consistently looking to extend this footprint, as the flexibility of thinkFolio's support model allows for integration with any asset servicer, custodian bank or shadow ABOR required by our clients.

It is exciting to see the principles of openness and interoperability gain widespread acceptance across the industry. From our position at the forefront of these developments and as we focus on the deployment of our next-generation platform, we look forward to helping more firms realize the potential of a best-in-class, integrated solution across the investment lifecycle.

## Overview of thinkFolio partner ecosystem

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### Portfolio Risk & Analytics



Leading multi-asset class tools, factor models, risk analytics and performance analysis.

### Performance Measurement & Attribution



Cloud-native performance attribution models and reporting for fixed income and multi-asset strategies.

### Market News & Intelligence



FinTech Studios' Apollo.ai uses cutting-edge artificial intelligence and machine learning to produce curated market intelligence, research and analytics.

### Pre-trade Intelligence (Price/Liquidity Discovery)



Lucera's LumeALFA is a leading fixed income data aggregation and market surveillance tool that consolidates pre-trade liquidity data from major electronic venues and dealer inventory feeds, delivering a real-time view of the entire bond market.



Data connectivity network, supplying the highest quality pre-trade bond data (axes and inventory) from the sellside to the buy-side.



Market data system with unique protocols to expand access to critical institutional fixed income pricing information while incrementally improving the quality of pre-trade data.

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## Connectivity & Execution Management



A Broadridge® Business

thinkFolio FIX Network leverages the NYFIX trading hub and managed connectivity of Itiviti (a Broadridge business) to connect buy-side firms to sell-side brokers.



High-performance multi-asset execution management system for equities, fixed income, foreign exchange, futures, and options.



Triton Valor is a broker-neutral, multi-asset execution management system that combines liquidity sourcing, execution analytics, and workflow tools.



wave labs

eLisa (Electronic Liquidity Searching Application) is a fixed income execution management system uniquely tailored for institutional credit managers.

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## Middle Office & Trade Support



Pre- and post-trade margin and collateral analytics for derivatives markets.



thinkfolio's Post-Trade Matching (PTM) solution integrates with DTCC CTM to deliver an automated workflow to drive operational efficiency.



TBA Mortgage Master (TBA MM) is a full lifecycle clearance and settlement system driving automation for US agency MBS trading operations.

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## Asset Servicing/Front-to-Back



Investment operations outsourcing offering full middle-office and component solutions for a complex range of products, markets and asset types.

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## Technology & Infrastructure



Provides secure, resilient global cloud infrastructure to financial services institutions across banking, payments, capital markets, and insurance.



Operating system enabling firms to build multi-window enterprise desktop apps that maximize desktop real estate and user productivity.