

Overview

Country/Region:
United States

Industry:
Proprietary Trading Firm

Customer Profile:

Theorem LLC is a multi-asset quantitative trading firm based in Philadelphia, focused on creating investment value through trading opportunity.

Business Situation:

Theorem needed a fast, flexible and easy-to-use means of managing and analysing large tick data sets. Their existing, largely manual, process was proving to be too slow for their requirements and didn't provide the level of granularity required.

Solution:

By using Xenomorph's TimeScape data and analytics management platform to import and store the data, Theorem is able to retrieve it quickly for detailed analysis. The analysis is managed using both out-of-the-box and in-house analytics functions via TimeScape's easy-to-use, instrument-centric interface.

Benefits:

- **Ease of Use**, thanks to a clear interface and business oriented query language
- **Flexibility** of platform ensures easy integration of custom analytics
- **Granularity** of analysis of intraday tick data is enabled by using both out-of-the-box and in-house analytics functions
- **Service** provided by the Xenomorph team has, and continues to exceed Theorem's expectations

Theorem LLC

Trading firm benefits from TimeScape's ease of use and business-oriented query language to manage and analyse large tick data sets

Introduction

Theorem develops automated trading algorithms using fundamental mathematical and scientific modelling techniques for application within a high-frequency computing environment. Theorem's philosophy looks beyond computational and statistical arbitrage, using sound analytics rather than micro and probabilistic features to articulate market behaviour and inform trading strategy.

Situation

During the initial phase, Theorem wished to analyse historical and intraday tick data, both trades and quotes, for around 50 US Equity symbols. The data had been supplied as vast comma-delimited (CSV) files that were read and processed within VBA in Excel. This proved a slow, unwieldy and time-consuming process which relied heavily on coding, as did every additional piece of analysis that was required. Theorem found they were spending an inordinate amount of valuable time on data management and data mining which would be better spent on analysis and adding value to their customer base.

As part of the data mining process, Theorem needed a consistent means of managing incomplete data, such as solving gaps in time and pulling out spikes in data. They also wanted to perform more complex analysis without writing specific code.

They decided to source a third party solution which would enable them to manage their data and analytics in a timely, consistent manner, without necessitating a great deal of technological know-how.

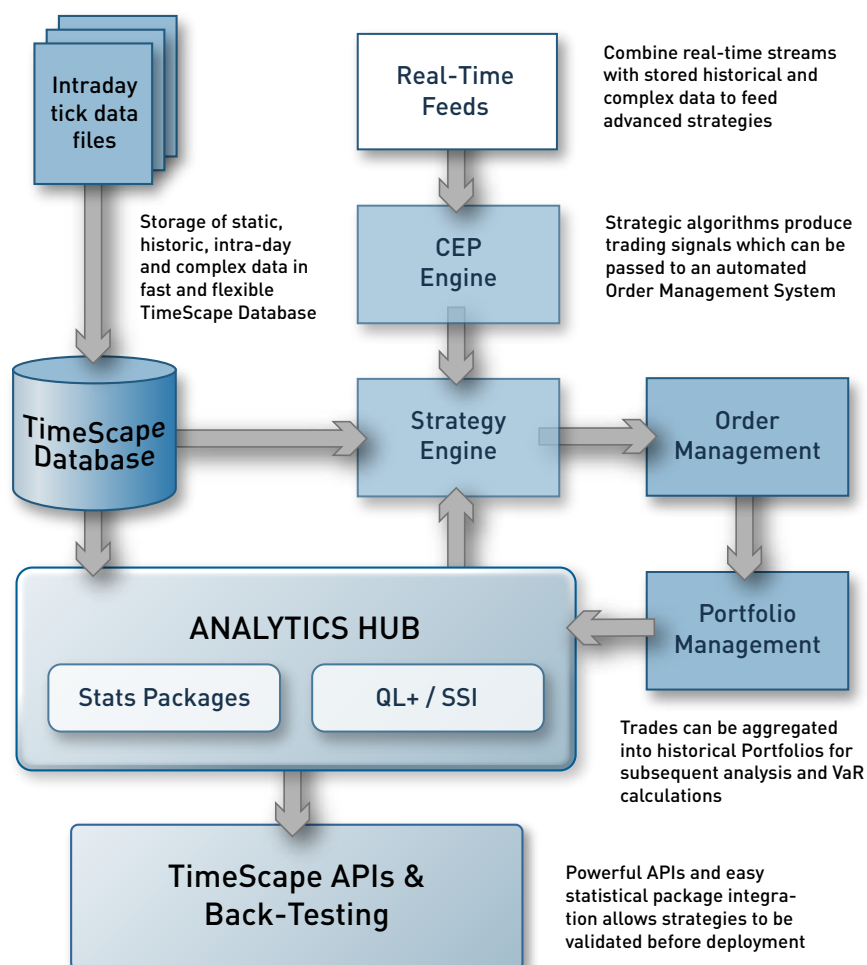
Solution

From the outset, Theorem made key decisions about how its eco-system would come into being and evolve over time. Rather than follow the tried and tested approach, Theorem utilized non-standard methods to start its defined environment.

The decision to enable business users to manipulate customized calculations from day one was paramount and is proving critical to the success of the firm. This decision has fulfilled its promise to create a nimble environment that fosters out-of-the-box thinking. By making business users self-sufficient, the firm has freed up IT to focus on strategic initiatives rather than get burdened with day-to-day or tactical work. Xenomorph's TimeScape data and analytics management platform has played an essential part in making this happen by automating access to data, simplifying the management and the analysis of data, and affording business users the necessary means to develop complex analytics with ease using the simple-to-use TimeScape APIs and the financially-aware query language QL+.

"There are so few technologies that can keep pace with a user's imagination, and TimeScape from Xenomorph allows us to manage and manipulate data without limitation."

Paul Roland, Managing Principal,
Theorem LLC



Logical diagram of the TimeScape solution for Theorem

TimeScape allows the easy capture and storage of intraday tick data from the vendor with no loss of the required millisecond precision. Tick data can be loaded, filtered for statistical outliers, sampled at any frequency with missing rules, filtered again with custom filters and fed to period analysis functions all in a single query which requires no coding. This makes analysis dynamic, swift and, as it can be done with very little technical knowledge, empowers the business user.

Theorem estimates that TimeScape has reduced the time spent managing data by up to 90%, thereby enabling users to formulate ideas in minutes rather than hours or days. The analysis is managed using both out-of-the-box and in-house analytics functions via TimeScape's easy-to-use, instrument-centric interface. The use of TimeScape has enabled Theorem to revolutionize its back testing on tick data, enabling users to quickly and efficiently calibrate the parameters needed for given algorithms.

Theorem is breaking new ground with its methods due to not having to start from the same space as everyone else and consciously approaching the markets with a unique perspective.

Longer term, Theorem is looking to store and analyse over five years of historical and tick data for global equities and global equity options and every reasonable currency pair and primary commodity. They are embracing TimeScape's inherent flexibility and ease of use in enabling them to create asset classes on the fly, add new data vendors and build business analytics – all in "now" time. In addition they are taking advantage of TimeScape's SDK (Software Development Kit) to integrate models using third party scientific and mathematics packages.

Benefits

- **Ease of Use**, thanks to a clear interface and business oriented query language which obviates the need for in-depth technical know-how.
- **Flexibility** of platform ensures easy integration of custom analytics. It is reassuringly able to cope with change, be it asset class, data source or the addition of new analytics applications.
- **Granularity** of analysis of intraday tick data is enabled by using both out-of-the-box and in-house analytics functions. TimeScape provides the fund with the magnifying glass needed to drill into the data for detailed analysis.
- **Service** provided by Xenomorph has, and continues to exceed expectations. The team at Theorem were particularly impressed by Xenomorph's responsiveness in addressing specific issues relating to the fund and their interest in seeing Theorem succeed.

"It's rewarding to work with a client who is keen to embrace TimeScape's new technological developments such as 64-bit and Xenomorph XDB SQL, which will make run times even faster and provide Theorem with further competitive advantage."

Mark Woodgate,
Founding Partner,
Xenomorph Inc.

More Information

Xenomorph delivers data and analytics management solutions to the financial markets. Our TimeScope technology leverages our clients' proprietary expertise, enabling them to analyse and manage more data with greater control and transparency.

Our focus is to make our clients more successful by closing the productivity gaps between high performance database technology, data management and end-user data analysis. Through unified and transparent access to data and data analysis, our clients achieve even higher levels of financial innovation, business process efficiency and regulatory compliance.

Trading, research, risk, product control, IT and back-office staff use Xenomorph's TimeScope data and analytics management platform at investment banks, hedge funds and asset management institutions across the world's main financial centres.

Established in 1995, Xenomorph has offices in London, New York and Singapore.

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