

# Financial Services

C O N S U L T I N G



## CASE STUDY

### THE BIG PICTURE

Algorithmic trading capability is an essential competitive edge in today's financial landscape. PSC is helping clients make this capability more agile and scalable through the use of highly engineered architectures.

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competitive advantage through the smart application of technology

## Algorithmic Trading Optimization

### Problem

A brokerage firm makes many very large orders of derivatives and could reap huge gains for its clients by timing its trades to track market movements. For example, if they are able to make a reasonable prediction of market depth over the course of a day for a particular instrument, they could write an algorithm to make trades at times during the day that would minimize transaction costs.

### Analysis

Many firms have made significant inroads in algorithmic trading during recent years, and this brokerage is no exception. They employ several researchers who have produced promising theoretical frameworks. However, the researchers are not engineers, and there is a gap between the mathematical theories that have been developed and working software that can scale to enormous loads enterprise wide.

### Solution

PSC consultants with a background in mathematics and deep experience in software engineering, architected a custom financial algorithm platform for the brokerage. The new service-oriented platform, also implemented by PSC, allows the brokerage's theoreticians to write small blocks of code that perform new mathematical computations as they are discovered. The platform then allows for efficient deployment through the brokerage's enterprise system. Further enhancing the value of the new platform are other techniques and features such as smart caching to optimize processing time - allowing traders to perform complicated predictive market profiles in nearly real time.

It's all in the way we listen.™