# Open Futures stays one step ahead of market competitors

*Using IBM System x and BladeCenter to power its algorithmic trading platform*

## Overview

**The need**

To capitalize on shrinking windows of opportunity for arbitrage in the financial markets, and to enable expansion into new markets, Open Futures needed to boost the power of its trading platform.

**The solution**

Open Futures refreshed its IBM System x® infrastructure, adding 14 IBM System x3550 M3 and six x3650 M3 servers, each with two six-core Intel® Xeon® processors, plus eight IBM BladeCenter® HS22 servers.

**The benefit**

IBM System x and BladeCenter servers provide a robust, reliable, high-performance platform for Open Futures' algorithmic trading software, helping the company meet speed-to-market objectives.

Headquartered in Delhi, India, with branch offices in Mumbai and Indore, Open Futures is a diversified financial markets institution that specializes in proprietary trading, money management and technology solutions. Open Futures' trading platform integrates real-time market data, derivatives valuations, and electronic access to exchanges worldwide.

The proprietary trading group within Open Futures aggregates financial information from a network of internal and external sources, then analyzes it to reveal theoretical pricing discrepancies across exchanges, products, and markets. These discrepancies represent revenue-generating opportunities—in the simplest terms, finding a financial instrument that can be bought in one place and immediately sold at a higher price in another place. Timing is critical—many arbitrage opportunities may exist only for fractions of a second—so Open Futures uses algorithmic trading systems that autonomously execute trades based on complex strategies developed by the company's financial analysts and quantitative traders.

"Our competitive edge is largely based on the quality of our algorithms, but of course none of what we do is possible without the electronic trading platform on which we run," says Sanjay Rawal, CEO of Open Futures. "IBM System x and IBM BladeCenter give us fast and reliable servers that allow us to execute our strategies ahead of the competition."

## Outrunning the competition

As a valuation arbitrage trader, Open Futures employs strategies such as index arbitrage, volatility dispersion trading, basket trading, sector trading, statistical arbitrage, and quantitative strategies. These all depend on access to reliable and fast computing resources: the electronic trading infrastructure is the basis of the entire Open Futures business.

*"Each time we invest in new System x servers, the additional capacity and performance creates opportunities to do new things."*

—Sanjay Rawal, CEO, Open Futures

Open Futures currently has around 55 servers in total, of which 30 are IBM System x servers, eight are IBM BladeCenter HS22 servers, and the remainder are from other vendors or are custom-built systems.

"We first invested in IBM System x about 18 months ago with a purchase of 10 machines to run our proprietary trading platform and databases," says Rawal. "Since then, we have expanded the environment with additional System x servers containing the next generation of Intel processors—the 5600 Series—and added the BladeCenter servers. In financial markets, there is basically an arms race: to stay ahead of the competition, we need to continually refresh our technology platform with the latest and greatest hardware."

The 10 older System x servers (IBM System x3550 M2 and x3650 M2, each with two quad-core Intel Xeon 5500 Series processors) have been moved to a second data center to act as a disaster recovery environment. Open Futures has replaced them with 14 IBM System x3550 M3 and six x3650 M3 servers, each with two six-core Intel Xeon 5600 Series processors, used to run the application and the database portions of the trading platform respectively. The servers all run Red Hat Enterprise Linux.

"Each time we invest in new System x servers, the additional capacity and performance creates opportunities to do new things," says Rawal. "For example, with the Xeon 5600 processors what used to take one millisecond we can now do in 20 percent of that time. We also have more servers running in parallel, so we can spread the application runtime across more than one machine to improve performance. This means that we can run more sophisticated analysis in less time than before, identifying new opportunities and executing the relevant trades faster."

## High-speed solutions

To stay on the cutting-edge of technology, Open Futures custom-builds one or two servers to try out the latest processor architectures as soon as they are released by Intel—and before the major server vendors have tested and integrated them into enterprise-class offerings. However, for its business-critical trading platform, the company values the reliability and integration of IBM System x and BladeCenter.

## Solution components

### Hardware

- IBM System x®3550 M2 and M3
- IBM System x3650 M2 and M3
- IBM BladeCenter® E chassis
- IBM BladeCenter HS22
- Intel® Xeon® processors 5600 series

### Software

- Red Hat Enterprise Linux

"We see that there is a price premium for IBM servers, and we also see that it is more than justified in terms of the quality of the hardware and the ease of deployment that IBM offers," says Rawal. "The System x and BladeCenter servers are extremely reliable, which is vital for us as down-time translates directly into lost revenue opportunities. Equally, we know that we can order a new server and have it up and running in 1.5 days. Before choosing IBM, we also tried Dell and HP offerings. In both cases, we found that it took considerably longer to get everything patched and working—sometimes up to four days."

Open Futures will continue to expand its server environment, both to keep up with the ever-shrinking windows of opportunity in the financial markets and to fuel its growth in new areas and markets. The company will soon create a new trading platform in a co-located facility at the Chicago Mercantile Exchange (CME)—to enable high-frequency algorithmic trading, it is vital to be physically close to the market.

"As a financial markets firm, we need to move fast to embrace new opportunities," says Rawal. "Speed-to-market is a critical measure for us, and it shapes everything that we do. When it comes to IT, I need to have confidence that it will be there on time, and that I can get it operational quickly and reliably. This is exactly what IBM gives me."

## The IBM difference

With the System x and BladeCenter servers in its two co-located data centers in India, Open Futures has a robust, high-performance platform for algorithmic trading. Although the IBM servers are based on industry-standard components, Sanjay Rawal sees clear points of differentiation: "With IBM, everything works as expected at the first attempt. We don't ever need to waste time trying to figure out where the vendor has screwed up, because nothing goes wrong. The IBM System x servers just seem to be better built and better integrated. They may have the same processors and the same memory, but the difference is that the complete package works out of the box and keeps on working. With IBM System x servers, we have complete confidence in the quality of the solution and its ability to support our growing business."

## For more information

Contact your IBM sales representative or IBM Business Partner, or visit us at: **ibm.com**/systems/x

For more information about Open Futures visit: openfutures.in



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