Algorithmic trading: using technology to speed things up

Algo-trading is entirely dependent on the hyper speed at which institutions can get their orders to market. With thousands of trades executed in seconds, arbitrage strategies based on microsecond differentials could translate into crores in profits.

This time sensitive ecosystem is only as strong as its weakest physical component, and algo traders invest heavily to reduce even the tiniest of delays. Funds, financial institutions or brokers, invest equally in computing and processing power and use the best talent to create the trading algorithm.

However the key, in the race to the market, lies in the speed of the network. Speed is determined by the distance packets of data travel and how efficiently they travel within the pipe. So a high bandwidth connection does not necessarily serve the purpose. The most important feature is the network's latency: or the time that elapses between the origin and the destination of the signal. The theory among network designers is that with fibre optic networks latency is only limited by the speed of light: and it's a race to the bottom.

Latency reduces with distance. Realising this, a major networking company spent three years laying fibre via the shortest, straightest route from Chicago to New Jersey: the line was proudly advertised as “13.10-millisecond round trip between New York and Chicago”.

Co-location, where exchanges allow traders’ servers to sit right next to theirs, reduces latency and yields microseconds of advantage. These slots, as can be imagined, are both limited and expensive: the NSE for example offers just 54 co-location server racks.

The pressure to deliver the microsecond edge falls squarely on network providers. To service an algo-trading or HFT firm, network providers are constantly aiming for nanosecond latencies. Major providers have dedicated low latency connections from major stock exchanges into the business districts and even key buildings.

When choosing a network provider for algo-trading, ensure you have the lowest latency connection from exchange server right up to your trading machines. Time literally means money so ensure the network’s performance is governed through detailed SLAs with pre-agreed latency parameters and 24x7 monitoring and backup.