

**Velocity provides specific solutions for multiple asset classes**

- Velocity for Equities
- Velocity for Fixed Income
- Velocity for Options
- Velocity Order Book Analyzer

To achieve success in the financial markets, brokers need to cope with dramatic rises in quote and trade data without sacrificing system performance. With rival brokers competing to offer institutional clients more sophisticated algorithmic trading tools, the ability to see and analyze more data than the competition is vital.

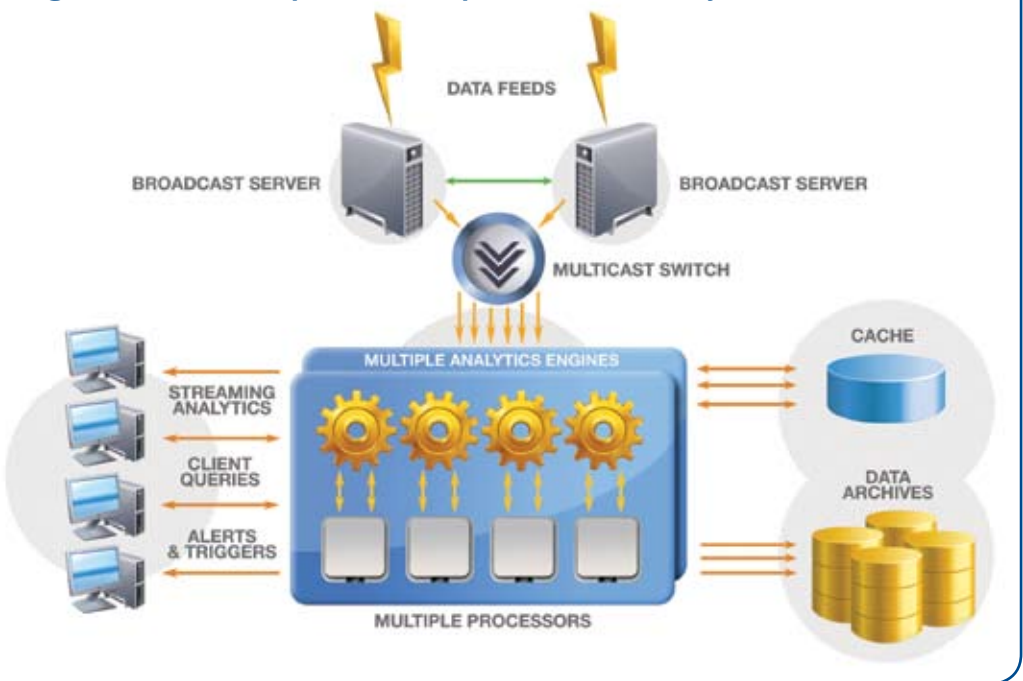
The key to success is to capture and store all necessary data in one place. Vhayu Velocity<sup>™</sup>, a patented system developed specifically for processing market data, provides direct access to fast-moving global markets in all asset classes and can dramatically improve trading results by processing massive amounts of data faster than any system.

Velocity's MegaTick<sup>™</sup> architecture is uniquely positioned to handle ever increasing loads of market data. Brokers can use the system to build a historical market view for detailed analysis before and after trades occur, and can capture and process real-time market data from multiple venues. Megatick<sup>™</sup> features unique Nano-Locking<sup>™</sup>, Vhayu's patented approach to creating and processing very small data packets, virtually eliminating resource contention and the resultant wasting of microprocessor cycles. Advanced multi-threading techniques ensure that all processor cores are fully utilized.

**MegaTick Architecture**

- **Increased parallelism** delivers incredible throughput across:
  - Multi-threads
  - Multi-cores
  - Multi-processors
  - Multi-servers
- **Nano-Locking** minimizes potential wait for locked resources maximizing microprocessor cycles for ultra fast performance
- **Cache Pooling** provides ultra precise mapping of data to hardware resources to enable blazingly fast data retrieval
- **Volume Group** data segregation allows data to be written to multiple read/write archives in parallel for efficient retrieval from disk

**MegaTick architecture provides enterprise class scalability and fault tolerance**



Velocity was architected from inception to take advantage of the latest innovations in multi-core, multi-processor technology for maximum speed and scalability. The system combines cutting edge real-time stream processing, complex analysis tools, a patented time series database and an EventStream<sup>™</sup> publisher, all in a single platform. Velocity uses extremely efficient multi-threading, allowing the system to support very large numbers of users running simultaneous queries. Vhayu's unique multi-threaded datastore allows high query performance while concurrently capturing large volumes of steaming real-time data.



# Vhayu® Velocity™

Velocity offers a comprehensive set of off-the-shelf adapters, development environments and system management tools:

- Feed Handlers
- VWAP Engine
- Data Mapping Tools
- Analysis Tools
- Client API Tools
- Data Monitoring

Founded in 1998 by former Intel executives, Vhayu Technologies is a provider of real-time software that enables financial institutions to capture, analyze and store enormous amounts of streaming and historical data.

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## Benefits

Velocity helps brokers:

- **Reduce response time**  
Data queries on hundreds of gigabytes with 100x response increase over relational databases
- **Improve analysis**  
See more data than your competitors for more precise pre- and post-trade analysis
- **Achieve maximum speed and scalability**  
Velocity's Nano-Locking™ mechanism helps the system to perform huge volumes of parallel processing
- **Minimize storage costs**  
Velocity's patented data storage architecture persists data records in a compressed form for the most effective use of disk and cache space

## Features

Velocity has been specially designed to help you:

- **Develop custom trading strategies** for in-process analysis or historical back testing using powerful APIs and query languages
- **Publish** streaming analytics to existing in-house or third-party applications
- **Conduct tick-by-tick analysis** of the entire market with built-in alerts. Helps real-time trade decision-making and automated trade generation
- **Store** tick data, order book data and analytics in a highly compressed patented proprietary datastore
- **Perform thousands of simultaneous calculations** such as customized VWAP, betas or deltas based on user-defined intervals
- **Analyze** massive amounts of intraday and historical data simultaneously with much lower latency
- **Load and access any amount of historical tick data**, corporate actions, reference data and proprietary data based on asset class requirements
- **Integrate** applications and databases in the enterprise with SQL access to data via ODBC / JDBC
- **Interface with statistical packages** including MATLAB, R, S-Plus and Excel for a deeper view of cross-asset data for hundreds of exchange and vendor data sources
- **Integrate** complex event processing (CEP) platforms with Velocity adapters