

THOMSON REUTERS ENTERPRISE PLATFORM FOR VELOCITY ANALYTICS

HIGH FREQUENCY DATA MANAGEMENT AND ANALYTICS

Thomson Reuters Enterprise Platform for Velocity Analytics provides you with a comprehensive enterprise platform for managing real-time and historical tick data, deriving trade and execution strategies, and generating research and analytics. It also provides you with a comprehensive solution for calculating your customized or pre-configured analytics at the speed of the market, so you can react to changing market conditions and ensure that your trading strategies are executed efficiently.

Velocity Analytics allows you to develop market-making trading strategies, perform real-time market monitoring and regulatory compliance checks, and build real-time transaction cost models to decrease execution costs. The platform is widely used by global hedge funds, proprietary arbitrage trading desks, brokerage firms, exchanges, regulatory agencies, third party transaction cost analysis firms, algo execution desks, and many other types of businesses in the trading community.

Velocity Analytics integrates a wealth of data repositories from Thomson Reuters, including tick data, corporate actions, exchange metadata, condition codes, direct feeds, etc., as well as other third party data sources (e.g., exchanges, brokers, and market data vendors) and internal proprietary firm data. With its superior and easy-to-use integration capabilities, Velocity Analytics is the platform of choice for firms to standardize their data analytics and tick data management capabilities across the enterprise.

LOW LATENT, BEST IN QUALITY EXECUTION CAPABILITIES

Velocity Analytics seamlessly integrates into your trading environment, supporting real-time distribution of streaming trade signals to multiple in-house or third party applications simultaneously. For example, Velocity Analytics can generate trade signals to your Order Management System (OMS), facilitating program trading based on algorithmic strategies, so you can respond very quickly to short-lived market discrepancies and opportunities, and then accept executed trade data or other types of derived data back into the platform.

EXAMPLES OF SMARTER, FASTER EXECUTION:

- A new strategy is validated in Velocity Analytics before being deployed in production
- A measurable market profile (e.g., volatility) is detected in real-time by Velocity Analytics, triggering an alert to the OMS/execution platform to deploy a particular strategy that is typically successful in a volatile market
- A proprietary benchmark developed in Velocity Analytics is matched by real-time market data; it sends a FIX message directly to your OMS, which then forwards the FIX message for execution

DATA INTEGRATION

The right technology for managing high velocity executions must not only be fast and reliable but also seamless in integrating different types of content sets. Maintaining data quality throughout the trading lifecycle is a major hurdle. Velocity Analytics is your strategic solution for bringing together multiple types of datasets (e.g., tick data and corporate actions data) for real-time and historical analytics, thereby giving you a complete time series for research and signal generation.

STREAMING GLOBAL CROSS-ASSET DATA – REAL-TIME FEEDS, CORPORATE ACTIONS AND TICK HISTORY:

Thomson Reuters has the best-in-class global cross-asset content. Our ultra-low latent data feeds, tick history and corporate actions reference data are brought together with the Velocity Analytics solution.

Our solution enables you to run quantitative research and analysis on deep history, coupled with corporate action reference data to identify market anomalies or correlations that you can leverage. We bring together historical and real-time content to offer a comprehensive platform for quantitative trading and transaction cost analysis.

INTERNAL AND THIRD PARTY DATA SOURCES:

Many of our customers are already using Thomson Reuters Enterprise Platform for Real-Time. It is an ultra-low latency market data integration platform providing resilience, permissioning and publishing infrastructure to banks, brokers and hedge funds worldwide. Velocity Analytics integrates with the Enterprise Platform to access internal and third party data. Thomson Reuters Enterprise Platform for Real-Time permissioning also enables tracking and compliance. Velocity Analytics leverages the Enterprise Platform distribution to publish streaming analytics to multiple downstream applications.



HOSTED OFFERING

Thomson Reuters has hosted data centers around the world. Velocity Analytics can be hosted in any of these data centers as a dedicated service and add-on to your firm's infrastructure. Connectivity to any of our real-time low latency direct exchange feeds and historical tick and reference data can be completely managed by Thomson Reuters.

TESTING ALGORITHMS AND THIRD PARTY INTEGRATION

Trade and quote history from the Thomson Reuters Tick History service is integrated into Velocity Analytics, complementing streaming market data. This creates comprehensive market views, allowing you to develop and test strategies without being slowed down by querying traditional databases that are not optimized for market data.

Our platform allows historical trade data to be queried and analyzed 'on the fly', uncovering historical trends. Using these trends, you can build trading strategies that react to discrepancies in current markets. Building-block analytics allow you to get started or quickly create your own proprietary approach.

With accurate market data captured and easily accessible, you can build new algorithmic trading strategies, choosing from our library of application programming interfaces (APIs) and scripting. In addition, Velocity Analytics provides ODBC and JDBC connectivity to allow integration with statistical packages such as Excel, MATLAB and S-PLUS. And with easy integration to third party or proprietary customer-developed analytics, you can backtest these strategies as well.

DATABASE CAPABILITIES

- Capture and store every tick of data – global cross-asset class
- Capture streaming real-time ticks and integrate historical ticks
- Lose zero ticks with fully resilient fault tolerant system
- Store and apply corporate actions
- Store raw data formats and derived data analytics
- Apply data compression to reduce total cost of ownership
- Enable faster time to production with easy installation

CUSTOM AND PRE-BUILT ANALYTICS

- Send trade alerts to order management systems and execution platforms
- Publish streaming analytics such as Volume Weighted Average Price (VWAP) or TWAP to trading desks and applications
- Consolidate multiple venues to create custom National Best Bid Offer (NBBO) data
- Leverage order book analytics
- Calculate P&L in real-time throughout day
- Generate underlying asset prices intraday
- Query historical data against real-time data to simulate new trading strategies
- Plug into existing content, analytics and execution platforms

INTEGRATED PLATFORM

- Analyze exponentially increasing volume of market data in milliseconds
- Ensure accuracy and compatibility with Thomson Reuters or hundreds of other third party data feeds
- Plug in Thomson Reuters Tick History for global cross-asset, full tick data back to 1996
- Plug in corporate actions from Thomson Reuters or other third party sources
- Leverage Thomson Reuters Enterprise Platform for Real-Time for content integration, permissioning and publishing streaming analytics
- Easily process cancellations and corrections, symbol maps, futures rolls, etc.

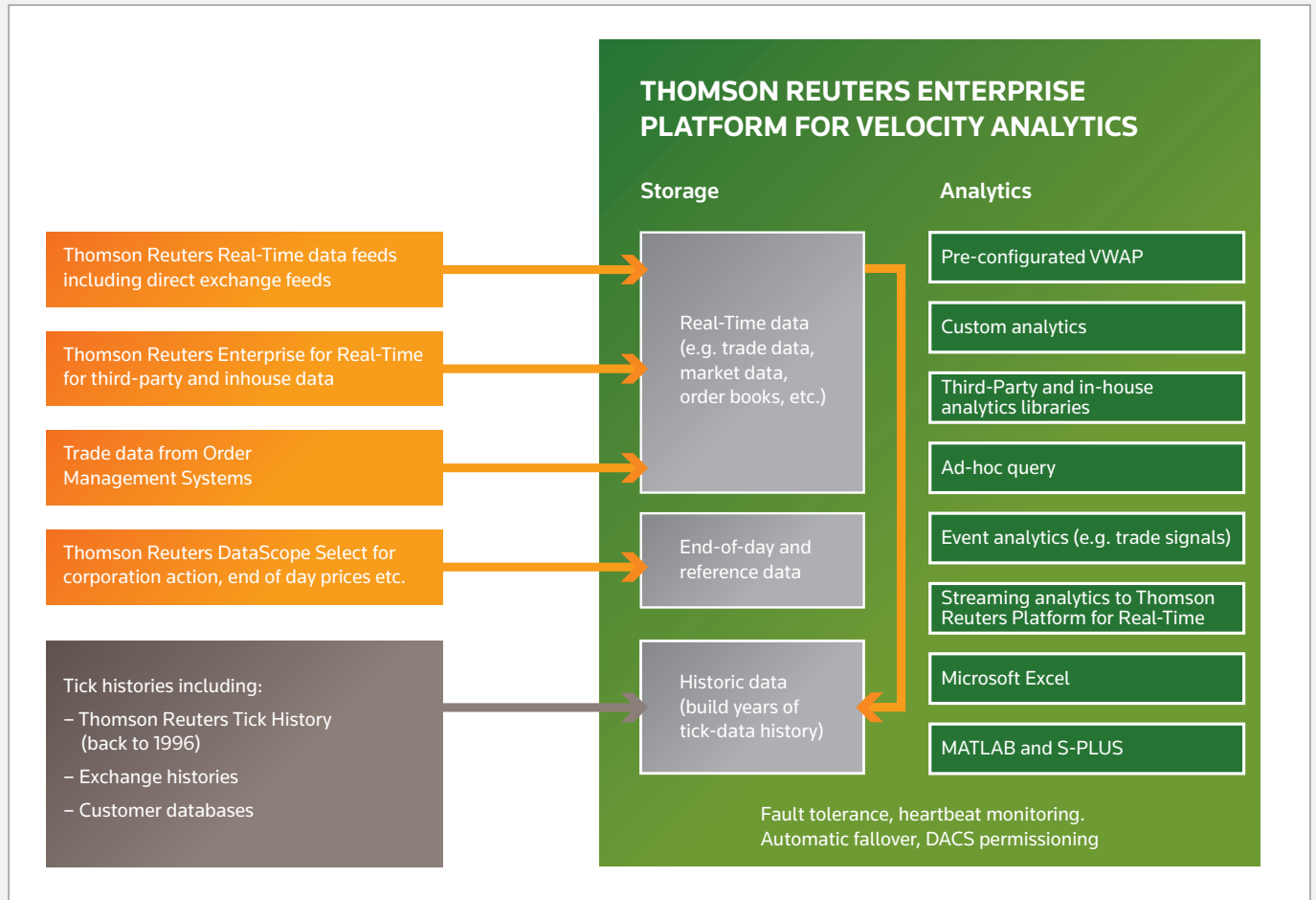
PRIMARY BUSINESS USE CASES

- Alpha Generation and Arbitrage
- Transaction Cost Analysis
- Algorithmic Execution
- Compliance and Surveillance

THOMSON REUTERS 24X7 SERVICE

Thomson Reuters global presence means that our support is world-class. Thomson Reuters global service centers can meet your 24x7 support needs, and Thomson Reuters account teams are local and available to respond rapidly to any of your concerns. We can provide one-stop problem resolution for Velocity Analytics, as well as the associated data and platforms.

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FUNCTIONALITY AND INTEGRATION

- Thomson Reuters consolidated and direct feeds (i.e. Thomson Reuters Data Feed)
- Thomson Reuters Tick History service with tick-by-tick history back to 1996
- Content sourced from open, low-latency Thomson Reuters Enterprise Platform for Real-Time, including access to over 50 exchange, broker and vendor data sources, as well as internal content
- Stream processing of real-time market data updates for real-time analysis, including concurrent analysis of real-time and stored historical data
- Streaming analytics published to Thomson Reuters Enterprise Platform for Real-Time
- High performance capture and storage of real-time and historical data in central location, available for analysis with fast response to queries across massive amounts of data
- Support for capture, storage and analysis of order books
- Industry-strength application programming interfaces (APIs) and scripting to build ultra-low latency in-process analyses, including customized trading algorithms
- Alerting capability to enable real-time decision-making for trading applications
- Graphical user interface tool to view data, build customized trading strategies and backtest those strategies
- Interfaces to standard statistical packages (Microsoft Excel, MATLAB and S-PLUS)
- Resiliency through Velocity Analytics fault tolerance and stream persistence, as well as Thomson Reuters Enterprise Platform for Real-Time “no tick loss” source mirroring

THOMSON REUTERS ENTERPRISE PLATFORM

THOMSON REUTERS ENTERPRISE PLATFORM
PUBLISHES, AGGREGATES, DISTRIBUTES
AND MANAGES DATA TO POWER THE ENTERPRISE

ENTERPRISE PLATFORM COMPONENTS

ENTERPRISE PLATFORM FOR REAL-TIME

Scale and performance
for high volume, low
latency data

ENTERPRISE PLATFORM FOR VELOCITY ANALYTICS

Infrastructure to
capture data and
perform analytics

ENTERPRISE PLATFORM FOR LIQUIDITY MANAGEMENT

Private streams
messaging and SOR
tools (smartTrade)

ENTERPRISE PLATFORM FOR DATA MANAGEMENT

Security master
and enterprise
integration tools

MANAGING MULTIPLE DATA TYPES INCLUDING REAL TIME, LOW LATENCY,
CLIENT CREATED, REFERENCE AND LIQUIDITY

WHY THOMSON REUTERS?

Widest coverage. Thomson Reuters has unrivaled coverage of market data, news, economic data and other differentiated content. This includes global cross-asset, granular, normalized data, adjusted and unadjusted, proprietary news and news analytics, and third-party services (ICAP, Newswires, etc.).

Trusted market data. Data is delivered with a consistent data model and common API across tick history, news archives, and pricing and reference data. Worldwide, we have teams of content specialists who perform comprehensive corporate actions, symbol changes and content cross-referencing, so content reaches your applications in an up-to-date, standardized, open format from a partner who you can trust to get it right.

Rapid time to market. Uniquely, Thomson Reuters enables you to access both historical data for research and analytics and real-time feeds, all using a common symbology and API.

Flexibility and integration. All Thomson Reuters products and services are built with an open framework using common APIs and a standard symbology, and are provided in a common metadata system with synchronized time-stamps and a variety of access methods. This ensures that you can integrate with a wide variety of databases, processing engines, analysis solutions and order management systems.

FOR MORE INFORMATION:

Sales Enquiries:

financial.thomsonreuters.com/sales

Products:

financial.thomsonreuters.com/velocity_analytics

Local Offices:

financial.thomsonreuters.com/locations

Customer Service:

financial.thomsonreuters.com/customers

