QuantQuote
historical intraday stock data

TickView Live Feed

Product Overview

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Revision History

Version	Description	Date
001	Initial release	December, 2010
002	TickView 2.0	September, 2012
003	TickView 3.0	April, 2013

TickVIEW Live Feed

Overview

In today's fast moving markets, full depth of book data requires dedicated 10GBit ports, large memory footprints, and top of the line multicore processors, representing a significant hardware investment, not to mention high reoccurring costs such as exchange colocation fees. QuantQuote's TickView Live Feed provides low latency market data that gives an up to date view of market activity without excessive bandwidth and computing power requirements, achieved through the use of innovative data consolidation techniques.

Description

TickView Live Feed data starts as raw market data from the FINRA Alternative Display Facility (ADFN) and the 12 separate US equity exchanges listed below:

- NASDAQ
- NYSE ARCA
- BATS Exchange
- BATS Y
- DirectEdge – EDGX
- DirectEdge – EDGA
- NYSE
- National Stock Exchange
- Chicago Stock Exchange
- NASDAQ OMX BX – Formerly Boston Stock Exchange
- NASDAQ OMS PHLX – Formerly Philadelphia Stock Exchange
- NYSE Alternext US – Formerly American Stock Exchange

This data contains all generated quotes and executed trades on each exchange. The bulk of this raw data is quotes information as quotes update at a much higher frequency. Each time a trade is received, TickView ***always*** transmits the tick to clients. Each tick contains the following information:

Quote Time – Last time the corresponding Best Bid/Best Ask was available (in milliseconds since midnight)
Trade Time – The time of the last trade recorded in this tick (in milliseconds since midnight)
Best Bid –The National Best Bid (price x 10000)
Best Ask – The National Best Offer (price x 10000)
Last Trade – Price of the last trade (price x 10000)
Cumulative daily volume – Aggregated over all exchanges.

Short Status – takes a non –zero value if symbol is short-sale restricted
Halt Status – takes a non-zero value if trading of security has been halted
Trade Sale Condition – Sale condition of last trade
Trade Exchange – Exchange code for the exchange the last trade occurred on
Best Bid Size – Size of the best bid
Best Ask Size – Size of the best ask
Best Bid Exchange – Exchange quoting the best bid
Best Ask Exchange – Exchange quoting the best ask

For the full list of possible codes for, sale conditions, and exchanges, please consult the TickView Trade Technical Specifications Document (3059-1).

TickView API technical specifications can be found in the TickView Technical Specifications Document (3068-1).

QuantQuote's proprietary feed consolidator efficiently combines the quote data from each exchange and builds a NBBO book in memory.

Short status information, rarely included in market data feeds, is included by default in TickView to provide additional information to trading algorithms. The inclusion of trade sale condition allows for certain undesirable trades (such as out of sequence trades) to be filtered out. Finally, information on the exchange a trade occurred on allows ones algorithm to determine which exchange is the most active for a particular equity.

Smart Burst Handler

During some brief periods of heavy trading, on external (internet) connections, some customers may not have enough bandwidth to receive all ticks TickView is sending and a queue of messages can accumulate. In this situation, TickView will automatically throttle the messages being sent and update at a lower frequency so that delays from a queue are minimized and the most recent data is being sent instead of stale data. In this manner, TickView ensures that clients always have the most recent data and allows for maximum compatibility with customers on slower connections or slower hardware.

TickView's Smart Burst Handler throttles the messaging rate in an intelligent fashion to minimize information loss. For instance, quotes with identical prices are combined. Instead of data being transmitted in response to every quote, data is sent ***only*** if that quote caused a change in the price of the best bid or best ask. Even though TickView does not update for every single quote event, it still provides a highly comprehensive view of the market. Due to Regulation NMS (Reg. NMS), all market centers are required to fill market orders at the NBBO. Thus, the throttled TickView feed's bid/ask still provides a reasonably accurate representation of the price at which a market order will execute and a good estimation of the bid/ask spread.

Performance

TickView Live Feed is first and foremost a low latency solution. Our highly efficient feed consolidation algorithms are designed for high frequency trading and add very minimal latency. Depending on the distance of the exchange from our New York colocation facility, the time between quote generation at an exchange, and delivery to colocated customers is 3 to 15 milliseconds. For customers connecting over the internet, additional network latency should be factored in. Typical latencies at various locations are given below in Table 1.

Location	Additional Latency
Boston, MA, USA	8ms
Los Angeles, CA, USA	100ms
Austin, TX, USA	60ms
Continental Europe	125ms

Table 1: Typical added latency for receiving TickView data over the internet at various locations around the world.

TickVIEW is designed from the ground up to be highly scalable and it is able to be parallelized to fully take advantage of contemporary multi-core processors. Multiple TickVIEW instances can be easily run to spread the load over multiple CPUs or servers if desired.

Usage

TickVIEW feed software consists of a C++ library which can be compiled into client trading applications. This library automatically parses data from the feed as it arrives and updates data in memory. Client code can be easily built on top of this library.

If you choose not to use the C++ library, bindings for Python, Java, Ruby, C#, and Perl are also available. This allows direct access to the feed. Development with other languages is not supported by QuantQuote, but the TickVIEW API is compatible with these languages via bindings.

For sample code and more usage details, please contact sales@quantquote.com for access to our secure documentation and code area.