User's Manual

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Introduction

This document provides background information regarding BATS Exchange, Inc. ("BATS" or the "Exchange").

Information contained in this document is subject to change at any time. For the latest updates, please refer to www.batstrading.com.

Our Mission

To make markets better.

BATS Trading, Inc. was incorporated in June 2005 in response to the rapid consolidation in the ECN space. On August 18, 2008, BATS Exchange, Inc.'s registration as a national securities exchange was approved by the Securities and Exchange Commission, and on October 24, 2008, the Exchange commenced operations as a national securities exchange. BATS believes competition drives innovation, and that there should be a choice between multiple competing electronic markets.

The Exchange's trading platform was built from the ground up to handle high speed, high volume, anonymous, reliable trading of US equities. We are rapidly working to enhance our product functionality.

We want to earn your business.

Become a Member

To be a Member of the Exchange a firm must be registered as a broker-dealer, must be a member of at least one other national securities exchange or national securities association, must be able to clear trades or must clear through a clearing firm, and must meet certain additional criteria prescribed by the Exchange and set forth in Chapter II of the Exchange's Rules. Non-Members may also gain access to the Exchange through a Sponsored Participant arrangement with a Sponsoring Member firm, in accordance with the Exchange's Rules.

Membership application forms, as well as information and forms regarding sponsored access to the Exchange are available on the Exchange's website, www.batstrading.com. Please contact BATS at (913) 815-7002 for more information about becoming a Member or a Sponsored participant.

How BATS Works

Users connect to the system via the **BATS FIX Order Handler** using the industry standard FIX protocol, with BATS specific extensions. The BATS FIX Order Handler validates incoming orders, converts them to an internal proprietary format, and forwards them to the appropriate matching unit.

At the core of the system are several **Matching Units**. Each matching unit handles a bin of symbols, which can be reallocated to balance the load across the system. The matching unit compares the limit price of an incoming order with the price of resting limit orders on the **BATS Order Book** and the price of other markets' displayed quotes. If the order is immediately marketable against the BATS Order Book, and the BATS quote is equal to or better than the consolidated quote, an immediate match is made and communicated back to Users. If another market is displaying a better quote, the order will be handled depending on a User's instructions (*e.g.*, forwarded to the other market to attempt to fill the order, posted to the BATS book, cancelled, etc.).

Full depth of book market data is available via the BATS PITCH (uncompressed) or FAST PITCH (compressed) protocol. Top of book market data is also available through the BATS TOP protocol. Unlike some competitors, BATS does not charge Members or other data recipients to use its market data.

Users or their clearing firms may request copies of their executions via the BATS DROP protocol. This protocol works either in real-time or in a batch mode.

Technology

The Exchange's trading platform is housed in a world-class data center in Weehawken, New Jersey maintained by SAVVIS, Inc. The same facility is used to host the at least one other national securities exchange. BATS also maintains a copy of its trading platform at its secondary site, a data center in Nutley, New Jersey maintained by BT Radianz.

Both data centers provide a high level of security and availability through redundant and reliable environment control systems (redundant power supplies, on-site backup generators, cooling systems, etc). Datacenter personnel are available 24/7 to maintain and service the system.

The Exchange's trading platform is distributed across several servers to maximize throughput, minimize bottlenecks, and allow for simplified scalability. More servers can be added easily to expand system capacity.

Fast, reliable data storage is provided by a Storage Area Network (SAN).

Order Types and Related Information

BATS Order Types

BATS accepts limit orders and market orders. Orders are limited to a maximum of 999,999 shares.

Users may submit orders to the Exchange designated as IOC, Day, Good 'til Cancel, Good 'til Day, Reserve, Odd Lot, Mixed Lot, BATS Only, BATS Post Only, Partial Post Only at Limit, Pegged, Mid-Point Peg, Discretionary, Non-Displayed, Destination Specific, Modified Destination Specific, and/or Intermarket Sweep.

Refer to Chapter XI of the Exchange's Rules for more information regarding order types. Refer to the BATS FIX Specification for more details on how various order types are implemented.

Minimum Trading Increment

Most stocks trade in increments of $0.01. However, some stocks are eligible for trading in sub-penny increments of $0.0001. Orders that are priced in increments finer than the minimum trading increment are rejected.

Time in Force Values

IOC – immediate-or-cancel
DAY – available for trading during pre-opening and regular trading hours
GTD – expires at the earlier of specified expire time or end of regular trading hours

All remaining orders (including GTC Orders) expire at the end of regular trading hours.

Routing

Users have the option, but are not required, to use the Exchange's affiliated broker-dealer, BATS Trading, Inc., to route orders to markets other than the Exchange. Neither BATS Only nor BATS Post Only Orders

are routed to other markets. BATS Post Only Orders add liquidity, and never remove liquidity, from the BATS order book.

Crossing the Market

Orders that would cross the consolidated market are slid or rejected depending upon the request of the User.

Price Sliding

Regulation NMS requires exchanges and other market centers to have rules reasonably designed "to avoid a pattern or practice of displaying a quote which would lock or cross the consolidated quote."

BATS *price sliding* allows Users to enter orders on the BATS book which would lock or cross the NBBO, as long as the order would not lock the other orders on the BATS limit order book (displayed or non-displayed).

Without price sliding, algorithmic traders would likely need to retry orders multiple times in rapid succession in order to attempt to get on the BATS book when the consolidated NBBO moves, putting needless load on the system. BATS price sliding ("Displayed Price Sliding") allows the more aggressive orders to reside in the BATS matching engine, even when their display price must be constrained by the NBBO.

BATS Displayed Price Sliding is most likely to occur with non-routable and BATS Post Only Orders. By default, orders route to away market centers when the away market center displays a better quote in the consolidated NBBO than is available on the BATS order book.

Users may disable BATS Displayed Price Sliding by setting FIX tag 9479=R ("DisplayIndicator") on their orders, or changing their default port setting by calling the BATS Trade Desk.

BATS Displayed Price Sliding will permanently re-price orders that cross the NBBO on entry to work at the locking price.

The display price of the order is temporarily "slid" to a less aggressive level in order to avoid putting out a quote which would lock the consolidated NBBO.

Regular incoming orders receive "price improvement" relative to the NBBO when they match against the "slid" order at a price more aggressive than its display price.

When the consolidated NBBO widens, the display price is automatically "unslid" to re-display the order at the previous locking price. The new "unslid" price is reflected both in our PITCH feed and in our quote in the consolidated NBBO.

Displayed Price Sliding is the default setting for BATS FIX ports.

Upon request from a User, the permanent working price and initial display price can be reflected back in the FIX acknowledgement sent to Users in FIX tags 9690 ("Working Price") and 9691 ("Display Price").

Example of BATS Displayed Price Sliding:

NBBO:
10.00X10.01

BATS:
10.00X10.02

1) Buy BATS-Only Order at 10.03
2) Order is re-priced and ranked 10.01 and displayed down to 10.00 (10.01 would lock the NBBO)
3) NBBO goes to 10.00X10.02
4) Order is re-displayed at 10.01 using its existing priority
5) NBBO goes to 10.01X10.03
6) Order remains unchanged (it's only allowed to unslide once after entry)

Note: Order will always execute at 10.01 regardless of its display price at the time

Pegged Orders

BATS allows orders to peg to the NBBO in four ways:

1. Primary - pegs to the same side of the NBBO as the order
2. Market - pegs to the opposite side of the NBBO from the order
3. Mid-Point - pegs to the midpoint of the NBBO
4. Alternate Mid-Point - pegs to the less aggressive of the midpoint of the NBBO or 1 tick inside the same side of the NBBO as the order

All pegged orders are non-displayed. Primary and Market pegs may include a non-aggressive offset. Mid-Point pegs may not include an offset, and may result in executions at half-penny increments. Peg prices will be temporarily clipped as necessary to avoid crossing the market or resting at a price that would create a short sale test reject. All pegged orders are ranked at a lower priority than non-pegged orders. Pegging may be used in conjunction with reserve and discretion. Pegged orders are not routable and therefore must be BATS Only or BATS Post Only. Midpoint-Peg Orders have a lower priority than other pegged orders ranked at the same price.

Throttles

No guarantee is made about system performance, especially during periods of high volatility and order traffic. However, the BATS system was designed to handle at least 500 orders per second, per port, while providing acceptable order acknowledgement times. Users planning to send orders at a higher rate than 500 orders per second should make arrangements to connect to multiple ports and ensure they have an appropriate amount of bandwidth that will be required for their order flow.

Connectivity Choices

Users are responsible for choosing their telecommunications provider and arranging for connections to the primary BATS data center in Weehawken, New Jersey and the secondary data center in Nutley, New Jersey. Users are strongly encouraged to establish connectivity to both data centers to minimize service disruption in the event of an issue at either data center. BATS supports the following connectivity methods:

- Cross-Connect: Users that are co-located in either data center may request an in-house cross-connect from the User's Point of Presence (PoP) to BATS.

- Extranet Providers: BATS is currently on-network with SAVVIS (COIN, FTS, Exchange Express), BTRadianz (RadianzNet), TNSi, RelianceGlobalcom, SFTI, GuavaTech, FAT Networks, NexGen, Xasax, and Atrium.
- VPN: Users may connect via a Virtual Private Network (VPN) over the Internet, utilizing the IP Security Protocol (IPSec). VPN connectivity is also available for certification testing. PITCH, FAST PITCH, and TOP market data are NOT available via VPN. DROP executions are also NOT available via VPN.
- Point-to-Point: Users may connect using a point-to-point connection using leased lines or other network methods (e.g MetroE, T-3).

For more detailed information and instructions on how to connect to the BATS Exchange, please refer to the BATS Connectivity Manual.

Bandwidth Requirements

PITCH and FAST PITCH Market Data Feeds

BATS recommends that Users allocate at least 75 Mbps **per** uncompressed PITCH connection and 25 Mbps **per** FAST PITCH connection.

During spikes in quote updates, Users using less than the recommended bandwidth will experience queuing of their market data. Users using the same bandwidth to both receive quotes and transmit orders should also expect their orders to be slightly delayed. Many Users will find these delays unacceptable and may wish to upgrade their bandwidth to reduce these serialization delays

The table below shows the bandwidth statistics for both the PITCH and FAST PITCH market data feeds for the busiest trading day in November of 2008 (November 13th). The table shows the bandwidth peaks for 1, 5, 10, 30, and 60-second intervals. The statistics include 11 bytes for TCP/IP overhead per packet and do not include the data link layer overhead.

Interval Seconds	Time of Peak	Messages per Second	PITCH Peak Mbps	FAST PITCH Peak Mbps	# times >= 90 percent
1	13:55:20	153,714	71	25	3
5	12:49:58	107,866	50	18	4
10	14:36:16	88,370	41	15	7
30	15:34:07	75,768	35	13	6
60	15:34:14	72,258	34	12	3

It should be noted that BATS data will have micro-bursts within the one second interval above, and that these micro-bursts will exceed the peak rates. The extent to which the network connection to the User will cope with the micro-bursts exceeding the available bandwidth without packet loss will depend heavily on the buffers in the end to end path.

BATS FAST PITCH can achieve up to 73% compression on the BATS PITCH market data stream. For further details on FAST PITCH, see www.batstrading.com/subscriber_resources/BATS_FAST_PITCH.pdf.

As the volume on the BATS Exchange continues to increase, the PITCH market data feed bandwidth requirement will also continue to grow. Users will be notified of PITCH bandwidth requirements as the requirements change.

FIX Order Entry

Bandwidth recommended for submitting orders via FIX depends on expected User order volume. If a User intends to submit orders to BATS and will not receive the PITCH quote feed, then it is possible that the User can connect with less than a T1 equivalent connection. The following table shows the maximum number of inbound orders (and/or cancels) per second that can be handled, with no buffering or delay, with different capacity connections:

Order Protocol	Example Connection Rates		
	256Kb	512Kb	1.5Mb
FIX Capacity	75 / second	150 / second	450 / second

Trading Hours

Pre-Opening Session   8:00 am to 9:30 am Eastern Time
Core Trading Session   9:30 am to 4:00 pm Eastern Time

Holiday Schedule

BATS will be closed in observance of the following holidays:

2009
New Year's Day	January 1
Martin Luther King, Jr. Day	January 19
President's Day	February 16
Good Friday	April 10
Memorial Day	May 25
Independence Day (observed)	July 3
Labor Day	September 7
Thanksgiving Day	November 26
Christmas	December 25

Clearly Erroneous Executions Policy

The Exchange's Clearly Erroneous Executions policy is set forth in Exchange Rule 11.17. The Exchange's rules are available at http://www.batstrading.com/regulation.

Contact BATS

Web Site   www.batstrading.com

Main Number   (913) 815-7000

Trade Desk   (913) 815-7001
tradedesk@batstrading.com
reviewtrade@batstrading.com

Membership Services (913) 815-7002
membershipservices@batstrading.com

Billing   (913) 815-7003
billing@batstrading.com

Network Operations (913) 815-7005
noc@batstrading.com

Career Opportunities work@batstrading.com - please send resume and a cover letter

FAX   (913) 815-7119

Mailing Address   BATS Exchange, Inc.
8050 Marshall Drive, Suite 120
Lenexa, KS 66214

Primary Data Center SAVVIS, Inc.
Weehawken, NJ
Dan Diversey
Sr. Sales Executive - Financial Markets
(312) 214-7912
Dan.Diversey@savvis.net

DR Data Center   BT Radianz
Nutley, NJ
Jhoan Checo
DMA Solutions Specialist
(212)303-6850
Jhoan.Checo@bt.com