



FAQs: Equities Electronic Order Handling, Algorithms and Smart Order Router

As of January 2025 | US Equities

Contents

Electro	onic Trading Practices	3
1.	Confidentiality of client information	3
2.	Advertisement of executed volume	4
3.	Execution and venue transparency	4
4.	Payment for order flow/rebates and fees	4
5.	Commissions and fees for electronic trading	4
6.	Irregular settlement of securities	5
7.	Order handling customizations	5
8.	Platform enhancements	5
Algosa	and Smart Order Router	5
9.	Introduction	
10.	Summary of the Algos logic	
11.	Algorithms and routing logic	
12.	Execution modes	
13.	Venue selection	
14.	Accessible venues	9
15.	Order types used	
16.	Order handling scenarios to consider	10
17.	Interaction with Barclays LX	11
18.	Router Customization Options	11
19.	Directed Orders via Router	11
20.	Exchange market data	12
21.	Non-exchange market data	12
22.	Legacy Algorithm Market Data	12
23.	Performance evaluation of Algos	12
24.	Information leakage prevention and anti-gaming protection	12
25.	Internal algorithm use	13
26.	Conditional Orders Support	13
27.	Capital commitment features	13
28.	Connectivity to the Algos and Router	13
29.	Location of the Algosand Router	13

This document is limited to products and services offered by Barclays that access the US Markets through electronic trading products and does not refer to any products that route to other markets, such as markets in Europe or Asia. Please note, when reviewing this document all references to "LX" or "Barclays LX" are referring to the firm's alternative trading system (ATS) that is registered with the Securities and Exchange Commission and trades NMS securities in the United States. References to 'LX FAQ' numbers are from the 'FAQs: Barclays ATS-LX' document available at barx.com/eqdisclosures.

Electronic Trading Practices

1. Confidentiality of client information

Barclays has procedures in place to ensure the confidential treatment of clients' electronic trading information. For information specific to Barclays' handling of client information associated with activity in its ATS (both via direct connections and via Barclays' smart order router and algorithms), including which Barclays employees have access to subscriber confidential trading information, please see Part II, Items 6 and 7 of the LX Form ATS-N posted on the SEC's web page available at https://www.sec.gov/divisions/marketreg/form-ats-n-filings.htm and the LX-ATS FAQs available at barx.com/egdisclosures.

A. Electronic trading by Clients directly through Barclays Algorithms and Router

Only designated employees of the Electronic Trading business unit are able to regularly monitor individual client electronic trading flow through Barclays algorithmic trading strategies ("Algos") and smart order router ("Router"). The ability to monitor client electronic trading flow is administered through permission-based systems, with permissions managed by Supervisors. Certain other employees may have visibility in respect of specific orders depending on the nature of those orders as described below.

- Barclays traders managing the risk books of the firm and the sales traders that sit within the trading aggregation unit, do not have the ability to view clients' electronic trading flow, unless a client authorizes visibility, e.g., through the use of a trading product, the election by the client of coverage by a high-touch trader/sales trader or if the trader executes a client's order using Barclays Algos and Router as described in subsection C below.
- Generalist sales personnel do not have the ability to view client electronic trading flow.
- High-touch sales personnel do not have the ability to view client electronic trading flow, unless a client specifically requests to have a single point of contact for both high-touch and electronic coverage, or if a client otherwise authorizes visibility or the high-touch sales personnel executes a client's order using Barclays Algos and Router as described in subsection C below.
- Operations, technology, compliance, audit, risk and legal staff can view order information on a postexecution basis for surveillance and monitoring purposes. They also may request real-time order and revenue information on an as needed basis.
- On a post-execution basis, personnel within the Equities division and senior management are able to view client electronic trading revenue and, where necessary, to address client specific issues and trade details.
- Certain senior management employees may be permitted to view order information in accordance with the firm's internal controls and approval processes.
- Additionally, a client may choose to authorize additional Barclays' personnel to view its own electronic trading flow.
- BARX Book (or "BBOK") is Barclays' Single Dealer Platform owned and operated by Barclays Capital Inc.
 ("BCI"). It is accessible as a venue by the Barclays Algos and Router and also for sending directed orders.

B. Trading with Barclays Personnel

Barclays' electronic and high-touch sales trading personnel (including personnel who sit within the trading aggregation unit) and Barclays trading desks have the ability to execute a client's order using Barclays Algos and Router, which may place orders in LX as well as other venues. When these personnel place a client's order in the Algos or the Router, the desk that places the order, as well as the client's high-touch sales coverage, have the ability to monitor that individual order and resulting executions.

C. Trading through a direct connection to BBOK

Please refer to BARX Book FAQs available at barx.com/eqdisclosures for further information on BARX Book specific visibility/confidentiality.

2. Advertisement of executed volume

We advertise our electronic volumes in combination with our high-touch volumes in near real time via Bloomberg IOIA and RANKA screens. Only symbol and aggregated volume are displayed for Bloomberg users utilizing this function. Advertising is generally published in batch intervals for periodic advertising where all trades during that time period are advertised together, however, individual trades can be advertised on a more frequent basis.

Please note, these advertisements do not include the executed volume of clients who have opted out. To opt out of your executions with Barclays being included in aggregated volume reporting or analytics, please contact your Barclays sales representative.

ATS volume data is published by FINRA on a delayed basis at finra.org/ats.

3. Execution and venue transparency

To provide order transparency, Barclays offers its clients the ability to receive a variety of information and reports regarding their own orders. This information varies from time to time and may include, but is not limited to, execution venues, percentage of order flow executed invarious venues, and a client's algorithmic and router settings.

For various types of information pertaining to executions in LX, please see LX FAQs #4. The LX-ATS FAQs documents is available at barx.com/eqdisclosures.

In addition, Barclays may make available to clients the following tools:

- Near real-time trade monitoring through our Portfolio WebBench® analytics toolkit (may not be available to all clients; for additional information, please contact your Barclays sales representative).
- Detailed reporting of routing results, including venue execution analysis (through our Portfolio WebBench[®] analytics toolkit).
- Various FIX tags, e.g., trade destination, executing broker, add/take details.
- Access to SPECS[™], an online client interface where clients may view, verify, and request changes to their order handling settings with Barclays.

Please contact your Barclays sales representative for any additional information.

4. Payment for order flow/rebates and fees

When trading US equities, Barclays may execute on exchanges, ATSs and off-exchange trading venues which may have no charge or may provide rebates for execution. Periodically, the amount of credits that Barclays receives from one or more such market centers may exceed the amount that Barclays is charged. None of these trading venues are operated by Barclays' affiliates. Clients may receive information regarding their execution and associated rebates and fees in detailed routing reports.

For information on fees related to trading in Barclays LX, please refer to LX FAQ 9.

5. Commissions and fees for electronic trading

Per-share commissions and fees for electronic trading are negotiated.

For information on fees related to trading in Barclays LX, please refer to LX FAQ 9.

6. Irregular settlement of securities

In certain situations, a shortened or extended settlement may cause you to be a holder of record in respect of a corporate action or distribution on a record date on which you would not have been a holder of record had the relevant securities settled pursuant to the regular settlement cycle. Where Barclays has agreed to settle securities on an irregular settlement basis, Barclays reserves the right to reclaim any economic benefit accruing to you in respect of any corporate action (whether a stock split, merger consideration or otherwise) and any distribution (whether in cash or in kind and whether consisting of shares, rights or other property) that Barclays would have been entitled to receive by virtue of being the holder of record on the relevant record date had the shares settled according to the regular settlement cycle. Barclays reserves the right to bill you for any such economic benefit.

7. Order handling customizations

Barclays provides its clients with the ability to customize certain handling of their electronic orders. For example, Barclays provides its clients with the ability to opt out of the following:

- Including their order flow in electronic volume advertisements (see FAQ 2)
- Participating in conditional order negotiations (see FAQ 26)

For information on LX-specific customizations, please refer to LX FAQs # 5 and the ATS-Nfiling for LX available at https://www.sec.gov/divisions/marketreg/form-ats-n-filings.htm.

Clients also may customize other default settings for order flow handled by Barclays Algos or the Router.

Clients may view, verify, and request changes to their order handling settings through the online client interface SPECS. Note: If after being granted access to SPECS and receiving your settings, you do not notify us that you wish to make changes to your settings, then by continuing to transact with Barclays, you are deemed to have provided consent that those settings are correct.

For additional information regarding your ability to customize the handling of your orders, please contact your Barclays sales representative.

8. Platform enhancements

At any time, Barclays may implement enhancements to its equities electronic trading platform, which includes Barclays algorithms, router, and core infrastructure components. The enhancements may be rolled out across the platform as a whole or in multiple phases. For some enhancements a group made up of internal traders, and in some circumstances clients who have opted in, may be given access to functionality that is not available to all clients and which is not fully described in this document. Internal traders who are given access to this functionality may be trading on behalf of clients. Barclays may run periodic plant-wide experiments to evaluate the effectiveness of select features. Orders that are part of a control group in an experiment may or may not have select features available, depending on the nature of the experiment. Once the testing of a new feature (or the removal of an existing feature) has been completed, Barclays will harmonize the availability across all clients. Please contact your Barclays electronic sales representative for details on enhancements or new features currently being rolled out.

Algos and Smart Order Router

9. Introduction

Barclays hosts its Algos in a comprehensive platform, which centralizes signals, models, and decision making designed to deliver a more efficient and effective trading experience. VWAP, TWAP, With Volume, Hydra and Target Close algorithms are currently available within the platform.

Barclays has developed a smart order router ("Router") for US equities that leverages its electronic trading platform and legacy algorithmic trading strategies.

For more information or any questions on the below with regards to your specific orderflow, please contact your Barclays sales representative.

10. Summary of the Algos logic

There are three key logical components within the Algos – Scheduler, Order Placement and Router. The scheduler aims to determine the best way to execute a given order based on client instructions, short-term liquidity demands and a volume prediction model. The Scheduler sends the Order Placement specific instructions regarding the target quantity to execute over a defined period as well as a preference to either be ahead or behind the defined schedule. The Order Placement logic is comprised of several Execution Modes as described in FAQ 12. Within each Execution Mode, the Order Placement takes into consideration the liquidity demands of the Scheduler as well as a short-term price predictor to determine the aggregate quantities and price levels to trade at any given time. Based on the combined instructions of the Scheduler and Order Placement, specific Venue Selections are made as described in FAQ 13 by the embedded Router component.

11. Algorithms and routing logic

Barclays' Algos utilize the Router to route orders for execution. The Router (also available as a stand-alone strategy) is utilized by the Algos in four Execution Modes: Ping, Sweep, Exchange Post and Dark Post. An order will go through Ping, Sweep and Exchange Post, in that order, depending on marketability. Dark Post must be explicitly elected on a router order. A Dark Post order will not trigger any other Execution Mode. Dark Post is currently used by the order placement logic within Barclays' algorithms by default. For complete details on which algorithms utilize which functionality please contact your Barclays sales representative. Please refer to FAQ 17 for details of the Router's and Algos' interactions with Barclays LX.

Please note that VWAP, TWAP, With Volume, Hydra and Target Close algorithms are currently available within our algo trading platform with others in progress of migrating. For more information, please contact your Barclays sales representative with any questions with regards to your specific order flow.

12. Execution modes

Algos and the Router have four Execution Modes: Ping, Sweep, Exchange Post and Dark Post.

Ping

The objective of the Ping mode is to find hidden liquidity at or within the spread. Ping may be performed for marketable orders that could attempt to remove displayed liquidity at the far touch, i.e., National Best Offer (NBO) for buys, National Best Bid (NBB) for sells, or for orders that would post at the near touch or better (at or above NBB for a buy, at or below NBO for a sell). The Router and Algos leverage the Dynamic Ping module, which utilizes a customized set of venues to find hidden liquidity using midpoint and limit Immediate-or-Cancel (IOC) orders. Dynamic Ping leverages proprietary feeds provided by Barclays LX, BARX Book and other Broker-Dealer IOI Off-Exchange Venues. The available venues are listed in the Accessible Venues table below.

Sweep

The objective of the Sweep mode is to take available liquidity at the best displayed price or better. The Router and Algos aggregate displayed liquidity from exchange market data feeds as well as from proprietary feeds provided by Barclays LX, BARX Book and other Broker-Dealer IOI Off-Exchange Venues. Sweep may attempt to capture hidden liquidity in addition to what may be displayed in the market data and proprietary feeds. The Router and Algos route IOC orders to sweep, using intermarket sweep orders (ISOs) whenever possible to attempt to improve fill rate and to sweep multiple price levels simultaneously, where relevant. Sweep will set the limit based on the depth needed to fill the order, unless constrained by a more conservative client-specified limit price.

Exchange Post

The objective of the Exchange Post mode is to provide liquidity on exchanges when the order is unmarketable and cannot take liquidity via Ping or Sweep modes. Exchange Post has two options for Posting – Smart Post or Dynamic Post. The Smart Post leverages probability of fill model and other factors mentioned in FAQ 13 for venue selection. When Smart Post is making the allocation decision, the Router and Algos may determine that the expected increased probability of fill for a displayed quantity may not outweigh the increased likelihood of impacting the security's price by displaying an amount above a certain size. This may result in Algos allocating both displayed and non-displayed liquidity into the market. When a single venue is allocated both a displayed and non-displayed quantity, a single reserve order may be routed to that venue.

Dynamic Post utilizes a customized set of profiles to post liquidity using venue specific market share or allocation weights in the posting profiles.

The Router and Algos use non-routable, day limit displayed orders when posting. Where a non-routable order is viewed as locking or crossing the NBBO, the exchange may slide the displayed price to a valid increment at that time.

The Router and Algos may reallocate quantities among venues when a child order routed to a destination receives a full fill, a minimum time has elapsed or market conditions have changed. If the market becomes locked, the Router and Algos may trigger Ping or Sweep modes to take liquidity. Shortly before the opening and closing auctions, the Router and Algos may reallocate orders to the primary exchange to ensure resting orders participate in the primary exchange's auctions.

Dark Post

The objective of the Dark Post mode is to provide hidden liquidity across available venues. Dark Post is currently used by the order placement logic within Barclays' algorithms. Similar to the Exchange Post, the Dark Post has two options for Posting – Smart Post or Dynamic Post. The Router and Algos use midpoint pegged day orders by default in this mode, but may use passive or market pegged orders depending on client instruction.

The Router and Algos may reallocate quantities among venues when a child order routed to a destination receives a full fill, a minimum time has elapsed or market conditions have changed.

Barclays' legacy Hydra algorithm supports the ability to post an entire order initially to LX for a short interval to allow for potential crossing prior to placing orders across multiple venues. Clients can opt out of this feature.

For more information, please contact your Barclays sales representative.

13. Venue selection

Each Execution Mode used by the order placement logic (see 'Execution Modes' above) may use any of the following as inputs for real-time venue selection (listed in alphabetical order), unless stated otherwise:

- Available Price when attempting to take displayed liquidity within the Sweep mode, venues displaying the best price will be allocated quantity ahead of venues with worse prices.
- Fair Price—a proprietary, symbol-specific price prediction based on historical data, market analytics and order feedback.
- Historical Data information obtained from orders and executions routed by Barclays, and market activity on
 previous trading days. Historical Data may be used in conjunction with, or in place of, real-time analytics and
 models.
- *Market Analytics* intra-day, symbol-specific information captured from market data, such as bid/ask imbalances, turnover frequency, execution price momentum and execution price location within the spread.
- Order Details order-specific information such as size, limit price, symbol being traded, order type and execution instructions.
- Order Feedback real-time, parent or child order-specific information captured from results of previously placed open and/or executed child orders, such as presence of non-displayed/hidden liquidity and average observed execution price.
- *Probability of Fill* a proprietary model that predicts the likelihood of an execution at a given price based on the relevant inputs mentioned above.
- *Venue Characteristics* venue-specific information such as type (e.g. exchange vs. ATS), pricing structure (e.g. inverted vs. maker/taker) and support for specific order types / features.
- Venue Cost fees charged and/or rebates offered by the venue.

14. Accessible venues

For Reg NMS securities, the following trading venues 1 are accessible by the Router and Algos.

,	Venue	Ping	Sweep	Exchange Post	Dark Post	Conditiona
Exchanges	Cboe BZX	•	•	•	•	
	Cboe BYX	•	•	•	•	
	Cboe EDGA	•	•	•	•	
	Cboe EDGX	•	•	•	•	
	IEX	•	•	•	•	
	LTSE ²		•			
	MEMX	•	•	•	•	
	MIAX	•	•			
	NASDAQ	•	•	•	•	
	NASDAQ BX	•	•	•		
	NASDAQ PSX	•	•			
	NYSE	•	•	•	•	
	NYSE American	•	•	•		
	NYSE ARCA	•	•	•	•	
	NYSE Chicago ³	•	•			
	NYSE National	•	•	•	•	
ATSs	AlphaX US		•		•	•
	ASPEN	•	•		•	
	BOFA Instinct-X	•	•		•	•
	BIDS	•	•		•	•
	BlockCross	•	•			•
	BNP Cortex	•	•		•	
	CODA Markets	•	•			
	Fidelity CrossStream	•			•	
	Instinet CBX				•	
	IntelligentCross	•			•	
	GS Sigma X	•			•	
	Virtu POSIT	•	•		•	•
	JPM-X				•	
		•	•			• 4
	LeveL	•	•		•	
	Liquidnet H2O	•	•			•
	LX	•	•		•	•
	MS Pool				•	
	OneChronos	•	•		•	-
	PureStream					● 5
	UBS	•	•		•	
	Virtu Matchlt	•	•		•	
Broker-Dealer IOI Off-		•	•		•	•
Exchange Venues	Citadel Connect	•	•			
	Jane Street JX	•	•			
	Jump Liquidity	•	•			
	Hudson River Trading	•	•			
	Tower Research Capital	•	•			
	Virtu VEQ Link	•	•			
	XTX	•	•			

Note: This table represents the venues that are accessible through Barclays Equities Electronic Trading. Actual interactions may vary by strategy and by client. To request custom settings, please contact your Barclays sales representative.

FAQs: Equities Electronic Order Handling, Algorithms and Smart Order Router

¹ List is subject to change and updated periodically. Also, Barclays may not offer the full range of functionalities or order types that each venue offers.

² Barclays uses a third-party order router to direct orders to the LTSE.

 $^{^{\}rm 3}$ Barclays uses a third-party order router to direct orders to the NYSE Chicago.

⁴ Conditional order type is used to access both block and Trajectory Cross liquidity from Level.

⁵ Conditional order type is used to access both block and stream liquidity from PureSstream.

⁶ BARX Book FAQs are available at barx.com/eqdisclosures.

Interaction with certain or all non-exchange venues can be disabled across all Execution Modes. Clients can request changes to their routing settings via the SPECS online portal or by contacting their service desk or sales representative. To discuss further venue customization options or if you have questions on these options, please contact your Barclays sales representative.

15. Order types used

Category of order type	Ping	Sweep	Exchange Post	Dark Post	Auction
Day	9	Эмсер	•	•	Auction
Hidden			•	•	
IOC	•	•			
ISO		•			
Limit	•	•	•	•	
Non-routable/ Do-not-ship	•	•	•		
Pegged	•			•	
Price Sliding			•		
Discretionary			•	•	
Reserve			•		
Market-on-Open / Limit-on-Open (MOO / LOO)					•
Market-on-Close / Limit-on-Close (MOC / LOC)					•
D-QUOTE®					•

Barclays' Algos can also access the LX Close Cross via MOC. Limit orders and short sale orders will not go to the LX Close Cross.

Note: Barclays' Algos and Router may send conditional orders to select internal and select external venues, as indicated in FAQ 14, alongside orders sent to the Router. Clients have the ability to opt out of LX or any external conditional-supported venue upon request.

16. Order handling scenarios to consider

Please note the following order handling scenarios.

- Sell short orders in a security that is in a price test are routed to the primary exchange, unless a different
 exchange is specified. Market orders will be repriced as limit orders, one tick less aggressive than the market
 impact price, which is defined as the more restrictive of either the Limit Up/Limit Down price and the clearly
 erroneous price.
- The Router and Algos may rely on an exchange to re-route marketable orders when unable to directly access a venue at the best price due to a system issue; currently, the Router uses BATS for routing in these scenarios.
- Orders entered prior to open will trade in pre-open and continuous trading sessions, unless client has opted out
 of pre-open; the continuous trading session ends when the security goes into closed state based on the primary
 exchange. If a security has not opened on the primary by a configured time, the Router may systematically treat
 the security as open for continuous trading. For details on trading in the after-hours session (once a security has
 been closed on the primary market), please contact your Barclays sales representative.
- Orders with opening or closing time in force are automatically routed to the primary exchange.
- Orders for securities that are halted are routed to the primary exchange, unless a different exchange is specified.

• In cases where a decision cannot be made solely based on the factors and analytics described in this document, the Router may also use a randomized ranking table to select venues.

Please note, this is not a complete list of potential scenarios to consider.

17. Interaction with Barclays LX

On a real-time basis, the Router and Router component of the Algos receives information about orders, other than conditional orders posted in LX (see Part III, Item 9 of Form ATS-N). For additional details about Algos and Router interaction with LX, please see LX FAQ#28. The LX FAQs document is available at barx.com/eqdisclosures.

Barclays' Hydra algorithm supports the ability to post an entire order initially to LX for a short interval to allow for potential crossing prior to placing orders across multiple venues. Clients can opt out of this feature.

See the following FAQs 21 and 22, as well as LX FAQs 5, 8, 10, 13, 14, 16, 28, 30 and 33, for additional details regarding data feeds and SOR's interaction with LX. Barclays LX-ATS FAQs document is accessible at barx.com/eqdisclosures.

For more information, please contact your Barclays sales representative.

18. Router Customization Options

A. Across all Execution Modes

- 1. Disable interaction with specific or all non-exchange venues.
- 2. Include exchange cost as one of the primary factors in the venue selection calculations.
- 3. Route exclusively based on exchange cost (ranking venues in ascending order of cost). Ping mode is disabled as part of this option. When sweeping, venues would be ranked based on price first and then exchange cost.

B. Ping

1. Disable Ping.

C. Sweep

- 1. Route one price at a time when sweeping multiple prices.
- 2. Minimize odd lot interaction by not routing to displayed odd lot quotes and using a minimum execution size of 100 shares.

D. Exchange Post

- 1. Specify the aggregate number of shares to display across all posted child orders.
- 2. Specify the venue to which the Router will post as part of normal order placement logic.

E. Dark Post

- 1. Limit routing to selected displayed and non-displayed venues (e.g., "Exclude posting to ATS XYZ").
- 2. Specify a minimum execution quantity when dark posting (e.g., "Do not execute for less than 500 shares at any dark pool"). ⁷
- 3. Disable the Hydra algorithms' initial order placement to LX via the Router.

To discuss further customization options or if you have questions on these options, please contact your Bardays sales representative.

19. Directed Orders via Router

Client directed orders sent to Barclays (not including client orders sent to LX via direct electronic order entry connection) are handled through the Router. Client directed orders are routed straight to the indicated exchange

⁷ Barclays offers a "Dynamic Minimum Quantity" feature through Hydra^o; this feature is not currently supported by the SOR.

and are not subject to any of the Router's order placement logic. The Router applies a risk control to directed market orders that results in these orders being sent to market with a marketable limit (buying at or above the NBO or selling at or below the NBB) based on internally defined thresholds. Please contact your Barclays sales representative for details of these thresholds.

20. Exchange market data

The Router and Algos use direct market data feeds from all protected venues that make such feeds available under Regulation NMS to obtain displayed quotes when making routing decisions. Barclays employs a third-party vendor, Exegy, to obtain these feeds. In the event of a disruption in a direct data feed from a protected venue (e.g., if the venue is experiencing technology issues), the Router and Algos have a backup mechanism to use the SIP feed instead. SIP is also used to obtain last sale information.

21. Non-exchange market data

The Router and Algos receive IOIs from several non-displayed liquidity venues, including venues that send IOIs from registered broker-dealers as well as from their unregistered affiliates. When sweeping, IOI quantity is used as an input for the non-displayed venue in the venue ranking logic, analogous to how a market data feed is used for a displayed venue. In response to these IOIs, the Router and Algos may send IOC orders to the non-displayed liquidity venues, which may or may not execute the IOC order. Clients that wish to opt out of having their orders routed to any of these non-displayed liquidity venues should contact their Barclays sales representatives. The Router itself does not disseminate IOIs.

The Router and Algos also receive quotes from displayed ATS venues. When sweeping, the displayed Quantity is utilized as an input for the venue in the venue ranking logic. In response to these quotes, the Router and Algos may send IOC orders to the displayed ATS venues, which may or may not execute the IOC order. Clients that wish to opt out of having their orders routed to any of these displayed ATS venues should contact their Barclays sales representatives.

22. Legacy Algorithm Market Data

The majority of Barclays' algorithms use SIP market data feeds when making decisions on order placement and pricing. However, two of Barclays' algorithms, Rapid and Spread Trader, utilize a combination of direct and SIP market data feeds. Please contact your Barclays sales representative for further details. Performance evaluation of algorithms.

23. Performance evaluation of Algos

Performance evaluation of Algos is a continuous process. The performance of the Algos is evaluated against several measures, which include but are not limited to, average slippage from the relevant benchmark (e.g., VWAP, arrival price); effective participation rate; and price movement before, during, and after the trade. Performance is also evaluated across various market capitalizations, spreads, durations, and order sizes. Outlier trades may be analyzed to identify potential improvements.

24. Information leakage prevention and anti-gaming protection

Algos employ various techniques to help minimize information leakage and avoid gaming activity. These techniques include, but are not limited to, the following:

A. Symbol-specific analytics

- 1. Volume profiles
- 2. Average spreads and quote depth
- 3. Volatility estimates

⁸ The Long-Term Stock Exchange ("LTSE") does not currently provide a direct data feed to Barclays.

B. Dynamic scheduling and volume forecasting

1. Intraday real-time volume adjustments to react to deviations from typical volume profile

C. Chase protection

1. Symbol-specific block exclusion logic for all participation tracking

D. Non-deterministic child order placement

1. Release time of passive and aggressive child orders does not follow a pre-defined progression

E. Dynamic Limit Pricing for Hidden Non-Displayed Orders

1. When routing hidden orders, a local limit is applied to prevent unfavorable executions due to short-term market movements

Please note, not all techniques are used for all algorithms.

25. Internal algorithm use

In general, Barclays Equities sales and trading personnel who execute and facilitate client orders utilize the same suite of algorithms as those made available to clients, except when testing new functionality (see FAQ 8).

26. Conditional Orders Support

Barclays' Algos and Router support conditional orders to select venues (see FAQ 14 for venues which support conditional orders).

Clients have the ability to opt out of a conditional-supported venue upon request. For more information on conditional order support, please contact your Barclays sales representative.

27. Capital commitment features

Automated capital commitment ("CapComm") features are available through Barclays' Algos and Router strategies. Once the pre-determined execution threshold or criteria is reached and certain order conditions are met, the remainder of the order is facilitated by Barclays.

Electronic clients are defaulted on for the Child CapComm feature for TWAP, VWAP, and POV flow, with an option to opt-out. Electronic clients must contact their Barclays Sales Representative to be opted out of default Child CapComm. Barclays reserves the right to offer a client CapComm at its discretion. For more information, please refer to the CapComm FAQs document available from your Barclays sales representative.

28. Connectivity to the Algos and Router

Barclays offers several connectivity paths for clients to route orders to the Algos and Router. Barclays reserves the right to, on a case-by-case basis and at its discretion, determine whether a particular connectivity path is provided to a particular client.

For more information on connectivity options, please reach out to your Barclays sales representative.

29. Location of the Algos and Router

The Algos and the Router are hosted by Equinix NY5 in Secaucus, NJ.

DISCLAIMER

This communication has been prepared by Barclays. "Barclays" means any entity within the Barclays Group of companies, where "Barclays Group" means Barclays Bank PLC, Barclays PLC and any of their subsidiaries, affiliates, ultimate holding company and any subsidiaries or affiliates of such holding company. BARCLAYS IS A FULL SERVICE INVESTMENT BANK. In the normal course of offering investment banking products and services to clients, Barclays may act in several capacities (including issuer, market maker and/or liquidity provider, underwriter, distributor, index sponsor, swap counterparty and calculation agent) simultaneously with respect to a product, giving rise to potential conflicts of interest which may impact the performance of a product. This document is from a Barclays Trading and/or Distribution desk and is not a product of the Barclays Research department. Any views expressed may differ from those of Barclays Research. Barclays may at any time acquire, hold or dispose of long or short positions (including hedging and trading positions) and tradeor otherwise effect transactions for their own account or the account of their customers in the products referred to herein which may impact the performance of a product. THIS COMMUNICATION IS PROVIDED FOR INFORMATION PURPOSES ONLY AND IT IS SUBJECT TO CHANGE. IT IS INDICATIVE ONLY AND IS NOT BINDING. Barclays is not offering to sell or seeking offers to buy any product or enter into any transaction. Any offer or entry into any transaction requires Barclays' subsequent formal agreement which will be subject to internal approvals and execution of binding transaction documents. Neither Barclays nor any of its directors, officers, employees, representatives or agents, accepts any liability whatsoever for any direct, indirect or consequential losses (in contract, tort or otherwise) arising from the use of this communication or its contents or reliance on the information contained herein, except to the extent this would be prohibited by law or regulation. Barclays is acting solely as principal and not as fiduciary. Barclays does not provide, and has not provided, any investment advice or personal recommendation to you in relation to the transaction and/or any related securities described herein and is not responsible for providing or arranging for the provision of any general financial, strategic or specialist advice, including legal, regulatory, accounting, model auditing or taxation advice or services or any other services in relation to the transaction and/or any related securities described herein. Accordingly, Barclays is under no obligation to, and shall not, determine the suitability for you of the transaction described herein. You must determine, on your own behalf or through independent professional advice, the merits, terms, conditions and risks of the transaction described herein. Barclays is not responsible for information stated to be obtained or derived from third party sources or statistical services. Any past or simulated past performance including backtesting, modeling or scenario analysis contained herein is no indication as to future performance. No representation is made as to the accuracy of the assumptions made within, or completeness of, any modeling, scenario analysis or back-testing. All opinions and estimates are given as of the date hereof and are subject to change. The value of any investment may also fluctuate as a result of market changes. Barclays is not obliged to inform the recipients of this communication of any change to such opinions or estimates. This document is being directed at persons who are professionals and is not intended for retail customer use.

For important regional disclosures you must read, visit the link relevant to your region. Please contact your Barclays representative if you are unable to access.

EMEA https://www.home.barclays/disclosures/important-emea-disclosures.html, APAC https://www.home.barclays/disclosures/important-apac-disclosures.html, US https://www.home.barclays/disclosures/important-us-disclosures.html.

This communication is confidential and is for the benefit and internal use of the recipient for the purpose of considering the securities/transaction described herein, and no part of it may be reproduced, distributed or transmitted without the prior written permission of Barclays. Barclays offers premier investment banking products and services to its clients through Barclays Bank PLC, Barclays Bank Ireland PLC and certain other subsidiaries and affiliates. The key details of each relevant Barclays entity are set out below and will apply, as relevant, to your legal and/orregulatory relationship with Barclays: Communications from Barclays Bank PLC: Barclays Bank PLC is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority and is a member of the London Stock Exchange. Barclays Bank PLC is registered in England No. 1026167 with its registered office at 1 Churchill Place, London E14 5HP. Communications from Barclays Bank Ireland PLC: Barclays Bank Ireland PLC is regulated by the Central Bank of Ireland. Registered in Ireland. Registered Number: 396330. Registered Office: One Molesworth Street, Dublin 2, D02 RF29. A list of names and personal details of every director of the company is available for inspection to the public at the company's registered office for a nominal fee. Calls may be recorded for security and other purposes. Communications from Barclays Capital Securities Limited: Barclays Capital Securities Limited is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority and is a member of the London Stock Exchange. Barclays Capital Securities Limited is registered in England No. 1929333 with its registered office at 1 Churchill Place, London E145HP. Barclays Capital Inc. is a US registered broker/dealer affiliate of Barclays Bank PLC and a member of SIPC, FINRA and NFA. Barclays Capital Inc. operates out of 745 Seventh Avenue, New York, NY 10019. Where required pursuant to applicable US laws, rules and/or regulations, Barclays Capital Inc. accepts responsibility for the distribution of this document in the United States to US Persons. Where a communication is being directed at persons who are professionals, it is directed at institutional investors in the US as defined by FINRA Rule 2210(a)(4).

BARX is a registered trademark of Barclays.

© Barclays 2025