

UBS ATS FAQs

April 2024

1. What is the UBS ATS?

The UBS ATS is an alternative trading system ("ATS") registered with the Securities and Exchange Commission ("SEC") that facilitates the matching of non-displayed orders in National Market System ("NMS") securities. The UBS ATS is wholly owned and operated by UBS Securities LLC ("UBS" or "Broker-Dealer Operator"), which is an SEC registered broker-dealer and member of FINRA, NYSE, SIPC and certain other self-regulatory organizations.

The UBS ATS will not match in a security until a transaction in such security has been executed on a national securities exchange, the UBS ATS has opened for trading, and Limit Up/Limit Down price bands ("LULD bands") for the security have been publicly disseminated. Please refer to Form ATS-N information on "Hours of Operations".

The UBS ATS is operated with the primary matching engines located in the Equinix NY4 data center located at 755 Secaucus Road in Secaucus, New Jersey and warm stand-by matching engines located in the Equinix NY5 data center located at 800 Secaucus Road in Secaucus, New Jersey.

The UBS ATS BCP (cold backup) site is located at Equinix CH1 data center located at 350 E Cermak Road in Chicago Illinois.

For more information about the UBS ATS please refer to the UBS Form ATS-N.

2. Where can I view the Form ATS for UBS ATS-N?

The UBS Form ATS-N is available by accessing and scrolling down the SEC Form ATS-N landing page at: <https://www.sec.gov/divisions/marketreg/form-ats-n-filings.htm>.

These FAQs are intended to provide helpful information in a summary format, but they are not a substitute for carefully reading the UBS Form ATS-N. Capitalized terms used in these FAQs are given the same meaning and definition as provided in the UBS Form ATS-N.

3. What is UBS PIN (US)?

The UBS Price Improvement Network in the US ("UBS PIN (US)") is a differentiated segment of liquidity operated within the UBS ATS. UBS PIN (US) facilitates interaction between any combination of UBS Retail Orders, UBS institutional algorithmic order flow, and UBS Principal Orders. Executed matches between Source Category 1 and Source Category 2 orders, or between two Source Category 2 orders, will include an identifier describing the execution as a "UBS PIN" execution from the UBS ATS. All other executions from the UBS ATS will not use this identifier.

Executions resulting from the UBS PIN (US) crossing functionality are identified to clients using the MIC code of "UBSP". UBS ATS crosses that are not executed using the UBS PIN (US) segment will be identified as "UBSA".

For more information please refer to UBS Form ATS-N information on "Trading Services, Facilities and Rules".

4. Does the UBS ATS use tiering or segmentation?

UBS ATS segments incoming order flow into different Source Categories. Upon order acceptance by the UBS ATS, orders are designated with a single Source Category. Source Categories are used by the UBS ATS when applying certain crossing restrictions.

For more information on Source Categories, the grading process used when assigning Source Categories, and the way crossing restrictions use Source Categories, please refer to UBS Form ATS-N information on "Segmentation; Notice".

5. What types of Subscribers have access to the UBS ATS and how do they access the UBS ATS?

The UBS ATS is made available to the types of Subscribers described in Part II, Item 5a of the UBS Form ATS-N. UBS ATS facilitates interaction among equity orders received from a broad range of clients and market participants, including institutional clients using UBS algorithms, broker-dealers, UBS trading desks, market makers, retail brokers, and active traders (sometimes referred to as High Frequency Traders or "HFT"). Interaction among Subscribers is subject to crossing restrictions, as described in the UBS Form ATS-N.

Access is provided on a controlled basis and all participants must undergo formal onboarding and a customary Know Your Customer ("KYC") process.

Subscribers may access the UBS ATS in two ways, via the industry standard Financial Information eXchange 4.2 ("FIX") protocol or via the UBS Binary Protocol ("UBP"). UBP is generally faster than FIX but latency may vary due to conditions. For more information on latency please refer to FAQ #21 below.

6. Do any UBS affiliates, internal trading desks, or internal market making desks act as principal to transactions executed in the UBS ATS?

Class A Direct Subscribers are the UBS trading desks (see Part II, Item 1 of the UBS Form ATS-N for more information) that are within the Broker-Dealer Operator, where the UBS trading desks route orders and trading interest to the UBS ATS using the Broker-Dealer Operator trading services and UBS makes the routing decision. This consists of UBS Algorithmic child orders and Conditional Indications from the UBS SOR routed on behalf of UBS clients, and also includes Principal flow from UBS trading desks and orders and Conditional Indications from RMM.

Class A Direct Subscriber orders include Affiliate Orders and may be routed to the UBS ATS as agency or principal through the UBS algorithms and Smart Order Router (SOR).

To avoid crossing with UBS Principal order flow in UBS ATS, Subscribers may send crossing restriction instructions as per the UBS ATS Specifications, which can be found at www.ubs.com/ats.

7. How are orders matched in the UBS ATS and what order types are supported?

The priority of an order is determined first by its effective price, and next by the time of receipt by the UBS ATS. The priority of a Conditional Indication (CI) is determined by its effective price, then by its quantity, and then by its time of receipt by the UBS ATS. For priority purposes, the effective price of an order or CI is defined based on its type:

- For Pegged Orders and CIs: The effective price is considered to be the less aggressive of the limit price (if provided) and the pegged price (near, mid, or far). For midpeg orders, there is an additional option, 'PeggedMidpointMode', which is described in the UBS Form ATS-N in the "Order Types and Attributes" section.
- For Limit Orders and CIs: The effective price is considered to be the limit price.

For more information please refer to UBS Form ATS-N information on "Order Types and Attributes".

8. Does the UBS ATS offer Conditional Indications (CIs)? Can firm orders generate invites to CIs? Will I know when an execution occurs as a result of a conditional interaction?

UBS ATS supports the use of Conditional Indications (CIs), which represent an intent to trade, specifying a security, a side (buy or sell), a price, a quantity and a minimum executable quantity. A CI will be held by the UBS ATS until cancelled or expired at the end of the day. CIs can only be sent to the UBS ATS via FIX 4.2 protocol.

The UBS ATS does not generate Invites on orders unless indicated to do so by a Subscriber. Senders of CIs are required to send an Invite Grade on each CI to indicate which contra CIs are eligible for Invites. CIs without an Invite Grade will be rejected.

Two (2) liquidity codes are available to indicate whether a UBS ATS execution resulted from a CI interaction. The 2 codes are Y (Add vs Conditional) and Z (Remove vs Conditional).

For more information on Conditional Indications please refer to UBS Form ATS-N information on "Conditional Orders and Indications of Interest" as well as the UBS ATS Specifications.

9. Does the UBS ATS send out Indications of Interest (IOIs)?

The UBS ATS does not send out traditional IOIs, however, as described above, the UBS ATS sends invite messages (Invites or Invitations) in connection with Conditional Indications.

For more information please refer to UBS Form ATS-N information on "Conditional Orders and Indications of Interest"

10. Does the UBS ATS route orders externally or to any trading desks at UBS?

No.

11. Does the UBS ATS aggregate minimum quantities or "bunch" orders on the book to satisfy a minimum quantity?

No.

12. What type of risk controls / trading limits exist in the UBS ATS?

The UBS ATS applies per order share and notional limits as well as aggregate trading notional limits for firm orders directed to the UBS ATS by certain Subscribers. The UBS ATS also applies other risk controls including an average daily volume check and a wide spread check.

- Average Daily Volume Check: The UBS ATS will not accept an order (or trading interest) when the share quantity expressed in the order (or trading interest) is larger than the greater of 50 percent of the 20 day ADV or 500,000 shares.
- Wide Spread Check: The UBS ATS will prevent matches if the existing BBO spread is determined to be excessively wide. More specifically, if the spread is greater than \$0.01 and larger than 10 percent of the offer, the UBS ATS will prevent a match from occurring.

For more information, please refer to UBS Form ATS-N information in "Order Sizes" and "Opening and Reopening."

13. How is execution quality monitored in the UBS ATS?

The ATS Execution Forum, consisting of representatives from the ATS Desk, Quant/Analytics, and Compliance & Operational Risk Control, is the forum within the UBS Investment Bank responsible for overseeing execution quality of the UBS ATS. The ATS Execution Forum meets monthly and examines and evaluates the activity of Subscribers within the ATS, including, but not limited to Subscriber Source Category Segmentation, Subscriber Grading of Conditional Indications, and Reversion Based Subscriber Suspension.

For more information please refer to UBS Form ATS-N information on "Segmentation; Notice".

14. Does the UBS ATS match orders during a locked or crossed market?

No, the UBS ATS will not match orders during locked or crossed markets.

For more information, please refer to UBS Form ATS-N information on "Trading Services, Facilities and Rules".

15. Does the UBS ATS maintain direct market data feeds?

The UBS ATS consumes three functionally identical sources of direct market data for Nasdaq, Nasdaq PSX, Nasdaq BX, NYSE, and NYSE ARCA where, weather permitting, the third source uses a faster transport layer over wireless technology. All other exchange direct market data feeds are transmitted over landline only.

All events that require market data use the direct feeds when possible, but may alternatively use the Securities Information Processor (SIP) when necessary. As an example, the UBS ATS uses the SIP for the Limit-Up Limit-Down bands. Matches in the UBS ATS are priced based on a Best Bid Offer ("BBO") aggregated from the "top of book" quotations of all U.S. equities exchanges using direct market data feeds maintained by the UBS ATS. If quotations from one or more exchanges are not available from the UBS direct market data feeds for any reason, the UBS ATS will rely on quotation data from the SIP for the affected exchange feed(s) to calculate the BBO. For example, if UBS's direct market data feed from an exchange is not available, the UBS ATS will use the attributed quote for that exchange from the SIP.

For more information please refer to UBS Form ATS-N information on "Market Data".

16. Please provide information on the roles of individuals who have access to UBS ATS Subscriber confidential trading information (CTI). How does UBS monitor these individuals for the purpose of preventing their misuse of such information?

Please refer to UBS Form ATS-N information on "Activities of Service Providers" and "Protection of Confidential Trading Information."

17. Does UBS ATS support "contra blocking?"

The UBS ATS does not permit the individual blocking of Subscribers, but does allow Subscribers to restrict crossing against a specific Source Category.

For more information please refer to UBS Form ATS-N information on "Segmentation".

18. What post-trade information is available on UBS ATS executions?

UBS makes certain UBS ATS execution information available to users upon affirmative request. In particular:

- For individual executions, UBS will provide the self-calculated NBBO known by the UBS ATS at the time of the execution.
- For senders of Conditional Indications, UBS will provide (on or after T+1) an analysis of Conditional Indications sent (including the related Invitations and firm up orders). Such analysis typically includes information regarding timeliness, hit rate, and intervening changes to the NBBO.
- For a more comprehensive view, UBS will provide on request an aggregate summary that indicates whether UBS ATS executions occurred within the UBS PIN (US) segment or versus Source Categories 3, 4 or 5. The summary typically includes quantity traded, notional traded, short-term reversions segmented by source category, time of execution, and peg type. UBS utilizes a default template for ease of production, although certain customizations may be available upon request.

19. Which activity is observed and analyzed when determining whether an ATS Subscriber's order flow is treated as Source Category 3, Source Category 4 or Source Category 5?

Please refer to the UBS Form ATS-N information on "Segmentation; Notice".

20. Can a Subscriber's order flow be suspended from executing in the ATS?

The UBS ATS will suspend/wholly exclude any flow (or subset of flow) that is eligible for grading if the associated reversion metric exceeds 100% reversion for three consecutive monthly reviews.

For more information please refer to UBS Form ATS-N information on "Exclusion from ATS Services"

21. What is the typical latency for UBS ATS to acknowledge a new order?

As of March 2024, the median time it took the UBS ATS to send an acknowledgment of a new order was as follows: (i) 84 microseconds when using the UBP protocol, and (ii) 98 microseconds when using the FIX protocol.

The protocol selected by a Subscriber may affect the latency experienced, and latency may vary due to conditions. The experienced latency for any individual order or CI may materially differ from the median times typically observed.

For more information please refer to UBS Form ATS-N information on "Means of Entry"

22. Does the UBS ATS advertise trades/executed shares?

The Broker Dealer Operator advertises Class A Indirect, Class B Direct, and Class B Indirect Subscribers' executed shares, through various advertising channels, in an aggregated and anonymized fashion on a per symbol basis at the end of each trading day.

Class A Direct Subscribers' executed shares will be advertised by the Broker Dealer Operator through various advertising channels, in an aggregated and anonymized fashion on a per symbol basis either in near real time or at the end of each trading day, but not both.

The UBS ATS allows Class B Direct and Class B Indirect Subscribers to request that their transactions be excluded from the advertisement of aggregated and anonymous execution information. Subscribers can send an email to ats@ubs.com to opt out of advertising their execution information in an aggregated and anonymous manner. Class A Indirect Subscribers should contact their account manager to request that their transactions be excluded from the advertisement of aggregated and anonymous execution information.

For more information please refer to UBS Form ATS-N information on "Protection of Confidential Trading Information"

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