

Jump Trading Group Algo Due Diligence Template

| GENERAL | |
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| <p><i>This general section outlines the core features of the algorithm. Providers may consolidate answers 1–5 into a table or grid if they wish to cover multiple algorithms with the same template.</i></p> | |
| Q1 | Algo Provider (also referred to as “you” or “your” below as required): |
| A1 | Jump Trading Futures, LLC (“Jump Trading Group”) |
| Q2 | Algo name(s): |
| A2 | Please see the “Jump Trading Group FX Algos” presentation (available upon request). |
| Q3 | Liquidity type (internal, external, hybrid): |
| A3 | Hybrid |
| Q4 | Products covered (spot, NDF): |
| A4 | Spot FX |
| Q5 | Description of algo(s): |
| A5 | Please see the “Jump Trading Group FX Algos” presentation (available upon request). |
| Q6 | Please describe any parameters or controls the user may adjust: |
| A6 | Please see the “Jump Trading Group FX Algos” presentation (available upon request). |
| Q7 | Please specify if the product is built internally or externally: |
| A7 | The FX algo system was built on proprietary technology. |
| CONFLICTS OF INTEREST | |
| <p><i>Some conflicts of interest may be expected but it is important to know what they are and what steps have been taken to manage them. This way the Algo User can make an informed decision.</i></p> | |
| Q8 | If principal liquidity interacts with the Algo User’s order, how does this happen and what steps are taken to ensure the fill is a fair one from the order’s point of view? |
| A8 | <p>The FX algo system accesses liquidity from multiple execution venues, including Jump Trading Group’s single dealer platform (“JLQD”) and other liquidity providers. JLQD is treated like any other execution venue or liquidity provider from an order routing perspective.</p> <p>When the FX algo system trades on JLQD, the fill that is passed back to the counterparty will have a FIX tag 30 (LastMkt) value of “JLQD.”</p> |

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| Q9 | If another part of your business needs to hedge or trade in the same direction as the Algo User's order, how are fills allocated between the two? |
| A9 | The FX algo system operates in isolation from the firm's market making system. |
| Q10 | Are there any particular commercial interests in trading venues or other relevant service providers that interact with the algorithm provided by you? If so, how are such conflicts addressed? |
| A10 | Any commercial interest in an execution venue or service provider that the firm holds does not factor into FX algo system order routing decisions. |
| Q11 | Please elaborate on your role as regards market risk, counterparty risk, and settlement risk. |
| A11 | As it pertains to the operation of the FX algo system, Jump Trading Group is not subject to market risk as it does not typically maintain open FX positions. Counterparty risk is managed pursuant to agreed upon limits related to net open positions ("NOP"). Settlement risk is mitigated via Jump Trading Group's use of a prime broker for trading conducted using the FX algo system and via contractual agreements with counterparties. |
| Q12 | Is there anything else of which you feel the Algo User should be aware? |
| A12 | Please see the "Foreign Exchange Trading Disclosure" (available upon request). |
| ALLOCATION POLICY | |
| <i>There are many different approaches to allocations. It is important to understand what happens in circumstances where multiple clients wish to trade or, indeed, when one order would be used to fill the order of another client.</i> | |
| Q13 | If you have more than one client order wishing to trade in the same pair and on the same side, how are fills allocated amongst these orders? |
| A13 | The FX algo system treats each parent order individually, and each child order submitted to an execution venue is linked back to a single parent order. Consequently, fills do not need to be allocated amongst parent orders. |
| Q14 | If two client orders are eligible for execution netting, how does this process work? |
| A14 | The FX algo system does not currently support execution netting. |
| ROUTING POLICY | |
| <i>Routing policy is an important topic. There are several components such as how execution venues are evaluated, curated, and prioritised. Also covered is the question of what fair-value mid the algo uses to make routing decisions and how information leakage is avoided when placing lit orders. Finally, internalisation is defined: some providers have a strict definition such as 'two algo orders netting' whereas others will include midbooks and trades where they have shown a skew through mid externally to incentivise another counterparty to fill them.</i> | |
| Q15 | How are hedging execution venues evaluated, including both observable (spread, impact) and implicit costs (information leakage)? |
| A15 | Execution venues are evaluated on an ongoing basis based on a variety of factors including, but not limited to, spread, probability of fill, and/or markout profile. |

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| Q16 | How do you prioritise between different execution venues (both external and internal sources) when routing orders? |
| A16 | Venue selection by the FX algo system is prioritised as follows: <ul style="list-style-type: none"> • Aggressive/marketable orders: Price, probability of fill, venue cost. • Passive/non-marketable orders: Predicted “time to fill.” |
| Q17 | If multiple clients enter orders in the same pair, will you aggregate these orders before placing orders externally or treat each client order individually and place multiple similar orders, which may compete with one another for fills? |
| A17 | The FX algo system treats each parent order individually. |
| Q18 | What – if any – ongoing work do you do in order to curate execution venues, where curation is possible? Approximately how often is this conducted? |
| A18 | Execution venues are not currently curated. See A15. |
| Q19 | Do you have any logic to avoid orders on venues where the order book is visible to all participants (lit execution venues) causing information leakage? If so, please describe it. |
| A19 | Where such an outcome is deemed to be detrimental to execution performance, the FX algo system seeks to utilize a mixture of order types and venues to minimize posting orders that are “visible to all.” |
| Q20 | Does the mid/fair-value used by the algorithm differ from the one used by your own market making system for pricing and risk management? If yes, please specify. |
| A20 | While the FX algo system uses the same underlying technology as the firm’s market making strategies, the methodology for determining fair value may differ depending on a variety of factors including, but not limited to, currency pair and time of day. |
| Q21 | Please define your understanding of ‘internalisation’ and, using an example, describe how this works in practice, demonstrating if/how your Algo Clients benefit from this process. If you wish to do so you may provide an indication of how much volume is internalised on average. |
| A21 | The FX algo system does not currently internalize counterparty orders. |
| SEGREGATION POLICY | |
| <i>Segregation policy is all about keeping order information private and reducing the risk of signalling.</i> | |
| Q22 | Please describe if and how the algo orders are segregated within your institution. |
| A22 | The FX algo system operates in isolation from the firm’s market making system. |
| Q23 | Can sales and trading personnel who provide intraday ‘market colour’ view algo orders at any stage? If so, what steps have been taken to minimise the risk of information leakage? |
| A23 | N/A – sales and trading personnel do not provide intraday ‘market colour.’ |
| Q24 | Can discretionary traders who may enter or exit risk for your institution view algo orders at any stage? If so, what steps have been taken to minimise the risk of information leakage? |
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| | Discretionary traders who manage risk are unable to view parent order level information (whether open or closed) but are able to view positions across the institution for risk management purposes. To mitigate the risk of information leakage, discretionary traders undergo regular training regarding the importance of protecting client trading information and do not make discretionary trading decisions, for risk management purposes or otherwise, based on client trading information. |
| Q25 | Can an electronic market making system view algo orders at any stage? If so, what steps have been taken to minimise the risk of information leakage or misuse of information? |
| A25 | No. |
| Q26 | Are algo order flows included in any market positioning tools or analyses that other clients may use? |
| A26 | N/A – Jump Trading Group does not provide such tools or analyses. |
| SAFETY FEATURES | |
| <i>Safety features might include fat-finger limits, kill switches or protections that automatically suspend the order when it trades too fast or in certain market conditions.</i> | |
| Q27 | Please describe any in-built safety features you have that may cause an order to be suspended or rejected. |
| A27 | <p>The FX algo system has the following risk checks, which may cause an order to be suspended or rejected:</p> <p>Parent orders:</p> <ul style="list-style-type: none"> • Order integrity check (valid order parameters for requested strategy, order times valid for specified instrument); • Duplicate order check; • Net open position; • Max order quantity; • Max order notional; • Market impact rate (applicable to schedule-based execution algo strategies); • Limit price required (applicable to non-schedule-based execution algo strategies); • Clearly erroneous check of limit price (applicable to non-schedule-based execution algo strategies); and/or • Cancel on disconnect (opt-in feature). <p>Child orders:</p> <ul style="list-style-type: none"> • Clearly erroneous limit price; • Order submission rate; • Number of exchange rejects; • Number of unacknowledged orders; • Max quantity; • Conformance to venue quantity requirements; and/or • Cancel on disconnect. |
| Q28 | Please explain what you have done, and will continue to do, to ensure the integrity of the electronic trading system you provide for clients to use (including the system’s reliability, security, capacity and contingency measures). |
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| | The FX algo system employs a combination of industry standard best practices with respect to system operations/monitoring, development standards, testing, and change management. The firm follows a layered approach to security and system integrity using of a variety of software and hardware solutions. The FX algo system can be operated in multiple data centers globally in conjunction with a redundant system design to ensure system resiliency and reliability. |
| TCA | |
| <i>TCA is an increasingly important part of the service. Where the TCA is not third party it is important to understand internal metrics. For example, if you have 'beaten risk transfer price' by 3bp how is that risk transfer price calculated?</i> | |
| Q29 | Do you support any TCA or analytics? If so, please specify which providers. |
| A29 | Jump Trading Group offers proprietary TCA. |
| Q30 | If you provide proprietary analytics, please describe how relevant metrics are calculated (mid-price, risk-transfer benchmarks, etc.). |
| A30 | <p>Metrics for Jump Trading Group's proprietary TCA are calculated as follows:</p> <ul style="list-style-type: none"> • MidPrice: primary exchange unweighted mid price • ArrivalPrice: mid price at order start • TWAP: time weighted mid price over the duration of the order (start to stop or start to cancel) • VWAP: volume weighted mid price over the duration of the order (start to stop or start to cancel) where volume curve is fitted to proprietary data • Slippage: difference between average execution price and benchmark price multiplied by FilledQty * (1 if Side == Buy else -1) • SlippageInBps: 10000 * Slippage Measure / Executed Notional |
| Q31 | If you provide proprietary analytics, is there a difference in data provided to different users? If so, please elaborate. |
| A31 | Jump Trading Group offers a standard TCA report format, which can be customised at the request of clients and may result in different data being provided to different counterparties. |
| SWAPS | |
| <i>Algo Users may have a need to roll an algo execution entirely/partially to one or more forward value date/s. If roll forwards are executed with the Algo Provider, it is crucial to understand if the respective swap prices are competitive and whether potentially sensitive order information is exposed. For example, does the swaps trader know which side of the quote the algo execution is on or do they receive a two-sided RFQ? Also, does the swap trader know they are quoting a captive spot fill or does it appear the same as RFQs that are priced in competition with other banks?</i> | |
| Q32 | What information is provided to the STIRT desk when there is a request for swap pricing from an algo order? |
| A32 | N/A – As it pertains to the operation of the FX algo system, Jump Trading Group does not have swaps traders or a STIRT desk. |