A SOLIDUS LABS REPORT
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SOLIDUS LABS

Rethinking Best Execution in Digital Assets

Introduction

Best Execution (BestEx) is a foundational principle of financial markets - the operational expression of fairness, diligence, and investor protection. In traditional securities markets, it is a well-established obligation, embedded in regulatory standards and reinforced by decades of supervisory oversight and industry practice.

As the institutionalization of digital assets accelerates, this foundational principle faces a structural paradox. The prevailing instinct is to replicate legacy compliance models - demanding an NBBO (National Best Bid and Offer), a consolidated tape, or a singular, authoritative definition of "best." Yet, attempting to transplant these constructs into the digital asset ecosystem ignores a fundamental reality: the market structure required to support them has yet to evolve.

The real challenge in digital assets lies in the combination of fragmented liquidity, inconsistent market data standards, evolving market microstructure, and the absence of established supervisory frameworks. The absence of consolidated infrastructure does not mean execution quality cannot be evaluated. Markets such as FX and U.S. Treasuries have long operated without consolidated tapes or protected quotations, yet firms still maintain robust execution review frameworks and oversight processes.

To bridge this structural chasm, Solidus Labs is introducing the industry's first Execution Quality (EQ) framework - the definitive toolkit designed to translate traditional BestEx principles into the hyper-fragmented reality of digital assets. By providing the quantitative rigor and transparency required to eliminate execution uncertainty, we are removing a critical oversight barrier to institutional participation, ushering in the next phase of digital asset growth.

From Best Execution to Execution Quality

Traditional BestEx frameworks were forged for a different era - relying on centralized infrastructure, consolidated data, and broker-routing obligations. In an environment with less intermediation, no consolidated price tape, and drastically different liquidity dynamics, firms face a fundamental challenge in demonstrating that their execution was fair and explainable under given market conditions and applicable regulations.

While traditional BestEx frameworks weigh a complex matrix of Execution Factors - including Total Price Improvement, Likelihood of Execution, and Slippage - the absence of a consolidated tape in digital assets makes objective price and liquidity benchmarking the most significant oversight gap. Solidus Labs' newly introduced Execution Quality product captures this shift. **It preserves the core principle of BestEx - fairness and client interest - acknowledging that demonstrating those principles in digital asset markets must adapt to a fragmented landscape.** The question is no longer just about achieving the "best price" on a non-existent tape, but whether the outcome was appropriate for the client's order type and explainable under the specific market conditions at the time of trade.

Why Legacy BestEx Doesn't Map One-to-One to Digital Asset

The goal of BestEx hasn't changed - the means to prove it have. To understand how these frameworks apply, we must first address the fundamental differences in markets where the relationships between venues, data, and liquidity operate without the standardization that makes BestEx attainable in traditional markets.

We can bucket these structural challenges into four key areas:

Price (The SIP Gap):

In equities, Best Execution is anchored to a consolidated tape that produces the NBBO - a single, regulator-recognized benchmark against which execution price can be measured and defended.

Digital asset markets have no equivalent. There is no Securities Information Processor (SIP), no consolidated quote stream, and no regulatory definition of a prevailing market price. Each exchange operates its own standalone order book, distributed via proprietary APIs, with no consolidated reporting standard, and prices can diverge meaningfully at the same moment in time. This absence of a unified benchmark creates a core BestEx gap: firms cannot rely on a standardized external reference to prove that a client received the best reasonably available price.

Symbols (The Liquidity Fragmentation Gap):

In equities, one security trades under one symbol, and liquidity fragmentation occurs across venues but not across economic representations of the asset itself.

In digital assets, the same underlying asset trades across multiple quote pairs (e.g., BTC/USD, BTC/USDT, BTC/USDC), derivatives instruments, and venues - each with independent liquidity pools and price formation. There is no consolidated view of liquidity tied to a single standardized symbol. This fragmentation makes cross-market benchmarking materially more complex and prevents a one-to-one transfer of equity BestEx logic.

Venues (The Slippage Gap):

Traditional BestEx frameworks were built around centralized limit order books governed by price - time priority, displayed depth, and clearly defined exchange rulebooks. Execution quality in equities can be evaluated against visible quotes, queue position, fill probability, and protected top-of-book pricing.

Digital asset markets operate under far more heterogeneous microstructures. While centralized crypto exchanges may resemble equity venues, they function without Reg NMS protections, protected quotations, or uniform market data standards. At the same time, the same assets can be swapped on decentralized venues, which often utilize automated market maker (AMM) models, where pricing is determined by liquidity pool balances and constant-product formulas rather than resting bids and offers. In that environment, slippage is not incidental - it is mechanically embedded into the trade. Because execution quality on AMMs depends on the specific liquidity state at the moment of execution - not simply displayed quotes - traditional BestEx principles cannot be applied on a like-for-like basis.

Intermediation (The Routing Gap):

In U.S. equities, broker-dealers route most marketable order flow through sophisticated Smart Order Routers (SORs) that continuously assess venue quality, price improvement, execution speed, and fill probability. This routing infrastructure compresses price dispersion across venues and operationalizes BestEx in practice by systematically exposing orders to competitive liquidity under a protected quote regime.

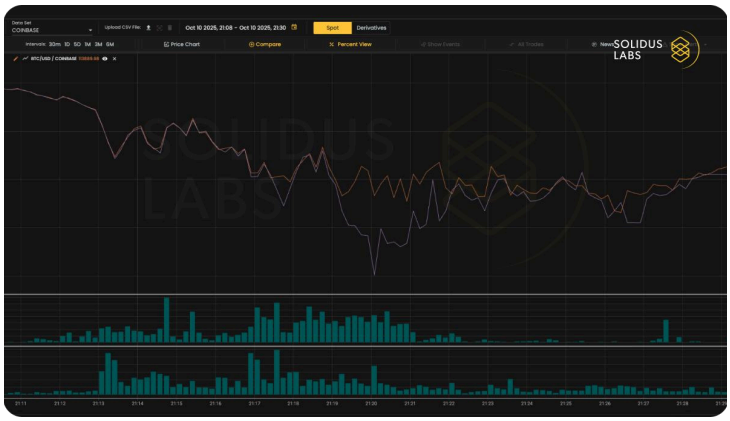
In digital asset markets, institutional routing and liquidity aggregation tools are utilized, but they operate without protected quotations or mandatory routing competition. Participants often execute directly on a single exchange without systematic cross-venue smart routing or protected quotations. Liquidity remains siloed, price discrepancies can persist, and orders become effectively venue-constrained. Without routing competition to enforce price efficiency, BestEx cannot be implemented in the same structural manner as it is in equities.

EXAMPLE

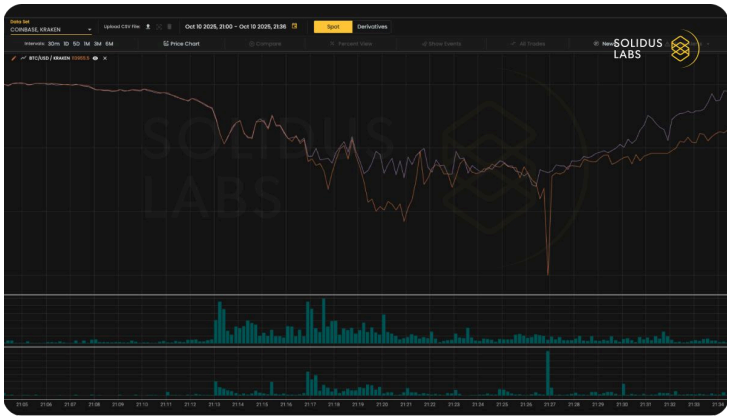
Same Trade, Different Reality

Imagine a client executes a $250,000 ETH/USDT trade on Exchange A while Exchange B shows a midpoint price 1% higher. In equities, that variance would almost certainly trigger a best-execution review. In digital asset, context may tell a very different story.

As Solidus Labs' research in When Whales Whisper: Inside the $20 Billion Crypto Meltdown shows, during the October 10, 2025 market stress Bitcoin price discrepancies across exchanges and trading pairs widened significantly. On Coinbase, for example, BTC/USDC traded around $103,114 while BTC/USD reached $107,000 within the same window - an intramarket divergence of roughly 4%. Across venues, the gap was even larger: BTC/USD on Coinbase hovered near $108,078, while on Kraken it dropped to about $100,000.



Coinbase BTC/USD vs BTC/USDT [Oct 10, 2025]



Coinbase vs Kraken [Oct 10, 2025]

Even in normal conditions, cross-venue spreads for top pairs like BTC and ETH fluctuate within lower single-digit ranges and expand sharply during volatility or withdrawal constraints, underscoring the contextual nature of execution quality in crypto markets. For mid-cap tokens such as SOL, AVAX, or XRP, gaps tend to widen even further, particularly between Asian and U.S. venues when fiat on-ramps tighten or regional liquidity diverges.

Similar dynamics are well established in traditional financial markets. In less liquid trading environments such as thinly traded securities or exotic FX pairs, the objective may not always be to achieve the theoretically best displayed price, but to ensure sufficient liquidity exists to complete the trade efficiently and reliably. In such conditions, the supervisory question is not whether a higher quote existed elsewhere, but whether that liquidity was reasonably accessible, executable at size, and consistent with policy-defined routing parameters at the time of trade.

A Framework for Execution Quality in Digital Asset Markets

For institutions expanding into digital asset markets, the challenge is not simply market access - it is mandate continuity. Internal execution committees, board oversight, and fiduciary obligations do not change because the asset class does. Yet digital asset markets operate without a protected quote regime, without a mandatory consolidated benchmark, and without a routing competition enforcement layer. Price formation differs structurally. As a result, legacy BestEx frameworks cannot be replicated one-to-one, and until now, there has been no institutional-grade framework to bridge that gap.

Solidus Labs introduces Execution Quality (EQ), a purpose-built framework designed to translate traditional BestEx principles into a market structure where fairness must be actively demonstrated through policy and analysis, not presumed through infrastructure.

Empowering Defensible Reviews

In institutional environments, undefined standards create supervisory risk. Solidus EQ provides a structured methodology to define execution benchmarks, apply them consistently, and provide the audit trail behind execution outcomes - enabling firms to demonstrate defensible oversight even in the absence of consolidated infrastructure. The framework does not dictate what "best" means. Instead, it equips firms to define policy-aligned benchmarks, monitor deviations in real time, and justify outcomes to internal committees, auditors, and regulators.

Execution quality considerations may also differ across trading contexts. Retail trading environments often focus on metrics tied to individual fills - such as immediacy or price improvement - while institutional trading may place greater emphasis on liquidity access, execution stability, counterparty risk, and the broader market context surrounding a trade. Digital asset markets increasingly require firms to account for both perspectives as participation expands across client segments.

Solidus EQ core capabilities

CROSS-VENUE PRICE DEVIATION MONITORING

At its core is Solidus' Cross-Venue Price Deviation engine - a configurable model that reconstructs reference midpoints across selected liquidity venues using a normalized data framework. The model evaluates execution price relative to contemporaneous cross-venue conditions, flags material deviations beyond supervisory thresholds, and dynamically adjusts for token liquidity tiers, trade size, volatility regime, and client segmentation. The objective is contextual intelligence - reducing noise while preserving defensibility.

UNIFIED DATA SCHEMA

A single integration supports both trade surveillance and execution-quality analytics for both on and off-chain trading, ensuring consistent data lineage across compliance functions.

CUSTOM BENCHMARK LOGIC

Firms can define benchmark methodologies aligned to policy - including weighted order-book depth models, regional liquidity clusters, or client-specific composites. Threshold calibration is aligned to internal risk appetite, liquidity tiers, and supervisory policy, with documented escalation pathways.

MULTI-VENUE CRYPTO BENCHMARKING

Aggregates and normalizes liquidity data across major trading venues, enabling cross-venue deviation analysis in markets without a consolidated tape or regulatory NBBO.

AUDIT-READY REPORTING

Supervisory reviews are supported by exportable alerts, execution data (CSV/Excel), and structured reports suitable for internal committees, board-level review, or regulatory inquiry. Screenshots and timestamped reconstruction provide documented evidence that fiduciary obligations were evaluated and satisfied during periods of expected cross-venue variance.

REGULATORY ALIGNMENT

Solidus actively engages with regulators globally to clarify evolving expectations around execution fairness in digital assets. Product enhancements are continuously aligned with supervisory guidance across the U.S., Europe, and APAC - ensuring that execution oversight frameworks remain consistent with emerging regulatory interpretation rather than legacy assumptions.

Solidus EQ is designed to facilitate these varying standards of oversight, acknowledging that execution quality in professional environments is rarely evaluated on a single transaction in isolation. Much like TradFi oversight committees review trading activity across large populations of trades to identify patterns in venue performance and pricing behavior, Solidus EQ enables firms to perform longitudinal analysis over time. In fragmented markets such as digital asset markets, this contextual analysis becomes even more important, providing the visibility needed to identify structural outliers and evidence a consistent, defensible supervisory process.

CONCLUSION

Reinterpreting BestEx for the Digital Age

Digital asset markets redefine what Best Execution means. The principles - fairness, transparency, diligence - still define what good looks like; what changes is how those principles are evidenced and operationalized.

It's time to move on from the old "Ex" - the expectation that the same formulas and data structures of equities can govern digital asset markets - and instead embrace a methodology grounded in objective measurement, contextual intelligence, and supervisory alignment.

That's the philosophy behind the Solidus approach: continuity of principle, evolution of method - a living standard for execution quality in digital asset.

APPENDIX

Regulatory Overview: A Principle Without a Playbook

Across jurisdictions, regulators are converging on a familiar expectation: even without a consolidated tape, firms must still act in the best interests of clients and be able to justify how they assess fairness.

United States:

There is currently no formal best-execution rule governing crypto-asset trading. FINRA Rule 5310 applies to securities transactions, and most crypto-assets fall outside that scope according to recent statements by SEC Chair Paul Atkins. The SEC's proposed Regulation Best Execution (Release 34-96496) - intended to codify these obligations across broker-dealers, including those trading crypto-asset securities - was withdrawn in June 2025. As a result, firms remain governed by the principles of Rule 5310 rather than a new prescriptive framework.

Europe:

Under MiCA Articles 76 and 78, crypto-asset service providers (CASPs) must ensure the fair, orderly, and efficient execution of client orders and act "honestly, fairly and professionally in the best interests of their clients and prospective clients." While MiCA establishes these conduct obligations, it stops short of imposing MiFID-style quantitative reporting such as RTS 27/28. Instead, European supervisors emphasize a principle-based approach - prioritizing fairness, transparency, and robust documentation of execution practices over prescriptive benchmarks. ESMA's Opinion on Broker Models (2024) reinforces this interpretation, noting that CASPs executing or routing orders must not structure their activities to circumvent MiCA's order-execution duties under Articles 76 and 78. The opinion underscores that execution quality and market integrity are integral to supervisory expectations, even absent a consolidated tape or harmonized "best price" metric.

Singapore:

The Monetary Authority of Singapore (MAS) has proposed, but not finalized, a framework emphasizing execution quality. Its July 2023 consultation outlines that Digital Payment Token Service Providers (DPTSPs) should ensure orders are handled and executed fairly, orderly, and promptly, supported by surveillance and governance controls. While not yet regulation, these proposals mirror best-execution principles in spirit - requiring procedural fairness and defensible execution oversight.

Hong Kong:

The SFC's Guidelines for Virtual Asset Trading Platform Operators (VATPs) impose conduct standards requiring operators to act with due skill, care, and diligence, maintain transparent operations, and keep proper records. These principle-based duties effectively support execution-quality oversight even without a formal NBBO or best-execution rule.

SOLIDUS LABS

Born in Crypto. Built for Wall Street.

Founded in 2018 by Goldman Sachs veterans, Solidus Labs was built with a bold vision: to merge Wall Street's rigor, crypto-native innovation, and cybersecurity dynamics - **redefining modern compliance and unlocking exponential efficiency at scale.**

At the core of this transformation is HALO, Solidus' agentic-based compliance platform, powered by unmatched signal depth to deliver surveillance across any venue, product, or asset class. Battle-tested in the most volatile and fast-moving markets, HALO leverages advanced anomaly detection, agentic AI workflows, and intelligent case management to reduce alert fatigue, streamline operations, and accelerate decision-making.

Breaking free from outdated models, HALO's multidimensional detection technology focuses on trading behavior and intent, not just static rules—leveraging diverse, cost-efficient risk signals to surface deeper, more actionable insights. The result is surveillance that's future-proof by design, empowering firms to grow faster and safer.