



Trading digital asset derivatives at institutional scale:

Infrastructure, execution, and the regulation imperative

Digital asset derivative trading volumes have grown but lagging infrastructure remains a hurdle. How are leading institutions and providers navigating this challenge? Vivek Shankar investigates.



Vivek Shankar

CME Group's crypto complex traded more than 340,000 contracts in the third quarter of 2025, a figure representing more than 200% growth year-on-year, with combined futures and options volume exceeding \$900 billion for the quarter. Across the broader market, derivatives now account for nearly three-quarters of total crypto trading volume, a dominance that mirrors the structural role derivatives play in every mature asset class, from rates to commodities to FX.

The launch of spot Bitcoin and Ethereum ETFs in the United States provided a further catalyst. A regulated and liquid spot leg made basis trading meaningfully more accessible to institutional desks, giving compliance and risk functions a structure they could work within: capturing the spread between spot and futures prices in a repeatable, regulated framework. Despite all this expansion, infrastructure has not kept pace. The derivatives market that institutions are now entering was not designed for them. Its foundations were laid by retail-facing perpetual futures platforms operating in an environment of anonymity, little KYC, and minimal regulatory oversight. And that market structure remains largely intact beneath the regulated surface layer that has since been added. Liquidity is fragmented across dozens of venues, each governed by its own margining conventions, API

specifications, and liquidation logic. Regulatory obligations vary across jurisdictions in ways that have no equivalent in traditional derivatives markets. And when conditions deteriorate, as they did with force in October 2025, the structural vulnerabilities embedded in that retail

DNA do not stay hidden.

Christian Gressel, Head of Sales and Business Development at ABEX, Drew Forman, SVP and Head of Strategy at Talos, and Maxime Seiler, CEO of STS Digital, spoke to eForex to examine where those vulnerabilities lie, what institutional-grade execution and risk infrastructure requires, and why the choice of derivatives partner has become one of the most consequential decisions a trading desk can make.

WHEN THE MARKET BREAKS, THE RETAIL ARCHITECTURE SHOWS

The perpetual futures model that accounts for the majority of crypto derivatives volume today is roughly a decade old. "The perpetual trading model that dominates crypto derivatives today emerged from early crypto derivatives venues such as BitMEX and was later widely adopted across the industry," says Seiler. "Early implementations were geared towards retail, pseudonymous trading and were not built with the risk controls and governance that many institutions expect. In periods of market stress, this structure can expose market participants to auto-deleveraging risk, which may be more impactful for larger positions—something stress events like "10/10" (October 10, 2025) highlighted."

On October 10th, 2025, that dynamic played out at historic scale. Triggered by geopolitical news, Bitcoin fell from \$121,000 to \$107,000 within hours. More than \$19 billion in leveraged futures positions were liquidated across centralised and decentralised venues,

the largest single-day deleveraging on record.

As exchange insurance funds were exhausted, platforms invoked auto-deleveraging mechanisms, closing profitable short positions to socialise losses and preserve solvency. Market makers withdrew from liquidity provision entirely. Order books reached their thinnest levels since 2022.

None of this was exceptional. It was the retail architecture, with its socialised loss mechanisms and absence of institutional-grade safeguards, operating precisely as it was designed to under stress. The October crash was an acute expression of something chronic: the absence of the clearing, post-trade, and margining standardisation that traditional derivatives markets built up over decades.

For an institutional desk, infrastructure inconsistency across venues makes execution risk genuinely difficult to model. "The main challenges stem from the market's relative immaturity and lack of standardization compared with traditional derivatives markets," Forman says. "Liquidity is fragmented across a large number of exchanges globally, many with different frameworks and rulebooks."

A strategy that performs within expected parameters on one exchange may produce materially different outcomes on another. This happens because matching engine behaviour, API reliability, and latency profiles vary in ways that sit outside the assumptions most institutional risk frameworks were built around.

The result is a category of operational risk that does not map cleanly onto anything in traditional derivatives, and that tends to surface at the worst possible moment. Gressel's response to that problem reframes where risk

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overhead. Spreads are inconsistent, depth profiles vary, and working a large order without a consolidated view of the market risks consuming liquidity on one venue while missing better pricing elsewhere.

The signalling problem alone, the risk of revealing position intent through sequential execution across fragmented venues, represents a structural disadvantage that has no real equivalent in centralised derivatives markets.

management actually begins. “Execution quality becomes a primary risk control and key driver of performance,” he says.

“Access to high-performance infrastructure, combined with research-driven algorithms and ultra-low-latency execution, enables institutions to interact with fragmented and fast-moving markets with precision. In this context, execution is not just about achieving a price, it is about controlling market impact, minimising slippage, and ensuring consistency of outcomes.” On an ordinary trading day, liquidity fragmentation across dozens of venues creates a specific and measurable

“Liquidity fragmentation is largely a fair-weather problem,” Seiler adds. “In our experience, when conditions deteriorate, fragmented liquidity doesn’t just thin out—it can disappear quickly across multiple venues, making large-order execution materially harder. Single-venue dependency is a risk that institutional investors are increasingly factoring into their execution strategies.”

All of this is the environment institutions must now execute in. How they do so is where the real differentiation begins.

BUILDING FOR THE REAL MARKET



A provider’s execution model determines whether its commercial interests are genuinely aligned with the client’s

These challenges cannot be addressed by better trading discipline alone. “The challenges in digital asset derivatives trading do not arise from a single weakness, but from the interaction of market dynamics, infrastructure limitations, liquidity fragmentation, and an evolving regulatory landscape,” says Gressel. “Together, these create an environment where execution outcomes can vary materially depending on how trades are executed.”

The latency problem illustrates why purpose-built infrastructure matters. In traditional markets, latency is primarily a function of a firm’s own technology stack and proximity to a central venue. In digital assets, it is also a function of which exchange is being accessed, from where, and how that exchange’s matching engine behaves under load. Seiler draws a sharp distinction between firms that have internalised these differences and those that have not. “Ultra-low-latency execution in digital asset derivatives can be more complex than in traditional markets, largely because infrastructure is fragmented across many venues with different APIs, connectivity standards, and liquidity profiles,” he says. “What sets leading firms apart is whether their execution infrastructure was built from the ground up with the specific characteristics of digital asset market microstructure in mind, or simply adapted from traditional finance.”

The institutional response to that complexity, at the platform level, has taken the form of a structural shift in how market access is delivered. Gressel describes what that shift looks like in practice.

“At the centre of this is the shift towards execution-as-a-service,” he says. “Rather than requiring institutions to build and maintain their own connectivity, routing logic, and execution frameworks, specialised providers offer integrated

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Drew Forman

access to multiple venues through a single, consistent interface.”

“Alongside this,” he continues, “algorithmic and data-driven execution models are replacing manual workflows. These systems continuously adapt order placement based on real-time market conditions, optimising for liquidity, minimising market impact, and reducing signalling risk.”

The CEX versus DEX question sits alongside all of this as a practical consideration rather than a philosophical

one. Decentralised venues offer real attributes: on-chain transparency, permissionless access, and reduced reliance on intermediaries have genuine appeal, and their share of derivatives volume has grown.

DEX technology is developing, and Forman notes that hybrid models combining elements of both centralised and decentralised infrastructure are likely to become more relevant over time. For now, the execution reality remains one-sided.

“Centralised exchanges currently account for the majority of institutional derivatives liquidity and offer deeper order books, often faster execution, and more mature trading infrastructure,” he says.

For institutional size, however, the relevant question is not whether the DEX model is theoretically sound but whether the infrastructure can handle the order. Seiler expands on this.

“DEXs offer genuine appeal,” he says. “But the trade-offs for institutional

participants can be significant. Liquidity fragmentation, limited protocol-level onboarding controls, and uneven regulatory oversight can become active amplifiers of market risk during volatile conditions. In a recent CoinDesk article, we saw a report that a crypto user lost roughly \$50 million in a single transaction after executing a large token swap on a decentralized venue that triggered massive slippage. We don’t view this as an isolated incident; it can be a structural consequence of trading institutional size on infrastructure not built for it.”

The infrastructure question has a provisional answer: specialist providers, purpose-built systems, and centralised execution venues for anything approaching institutional size. What remains open is the question of who those providers should be, under what regulatory standing they operate, and whether their interests are genuinely aligned with the institutions they serve.

WHERE THE REGULATORY ARGUMENT CURRENTLY STANDS

MiCA is in force across the European Union. The GENIUS Act is on the books in the United States. Regulated derivatives venues are operational, accessible, and growing. The infrastructure exists.

What has lagged is institutional willingness to distinguish between counterparties that operate within that infrastructure and those that do not. “The question today is less about uncertainty and more about choice.” Seiler says. “Investors need to decide whether they engage with regulated exchanges and OTC desks, or transact with platforms that are not regulated. The regulated infrastructure exists. The tools are in place. It is now a matter of institutional preference and responsibility.”



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Christian Gressel

The corollary is that the industry cannot wait for global harmonisation to close the remaining gaps. Gressel puts the direction of travel plainly.

“In the absence of fully harmonised regulation, the industry cannot afford to wait for clarity. It needs to raise its own standards,” he says. “Capital and flow will naturally gravitate towards firms that demonstrate strong governance, transparency, and accountability. A clear example of this shift is the move towards fully authorised execution providers. Firms such as ABEX, with FCA authorisation to trade derivatives, reflect a more institutional approach, combining advanced execution capabilities with regulatory oversight, rather than separating the two.”

Regulatory standing is necessary but not sufficient. A provider’s execution model determines whether its commercial interests are genuinely aligned with the client’s, and that distinction matters in ways that are well understood in traditional markets but are only now being applied as a benchmark in digital assets.

The difference between an agency broker acting solely on behalf of a

client and a principal dealer taking the other side of the trade is structural, not incidental. Gressel sets out the full selection framework.

“Agency-only providers, who act purely on behalf of clients without taking principal risk, offer a clearer alignment of interests and remove potential conflicts. Execution quality and technology are equally decisive. In fragmented markets, the ability to deliver consistent outcomes, through low-latency infrastructure, intelligent order routing, and adaptive execution logic, has a direct impact on performance.”

“Transparency is another key factor,” he continues. “Institutions require visibility into execution performance, including detailed data and transaction cost analysis, to monitor outcomes and demonstrate best execution internally.” Of all the criteria institutions apply when evaluating a digital asset derivatives partner, the depth of regulatory oversight the counterparty actually operates under is the one most consistently given insufficient weight. Seiler explains further. “Prudential regulation is the factor most consistently underweighted when institutions evaluate a derivatives partner, and it is arguably the most important,” he says. “There is a meaningful difference between a platform operating with a more limited KYC and AML framework and one operating under prudential oversight. That distinction is non-trivial. It typically touches counterparty risk, client asset segregation, reporting obligations, and the depth of ongoing regulatory scrutiny.”

“Institutions that overlook this in favour of convenience are taking on risks that

surface when markets are under stress, precisely the moment you need your counterparty to be dependable,” he concludes.

Regulatory standing, execution quality, and alignment of interests have emerged as the three pillars against which provider selection is now being measured. The conclusion is where those pillars converge.

SELECTING INFRASTRUCTURE PARTNERS FOR THE LONG TERM

Forman sets out a partner evaluation framework for institutions participating in digital asset derivatives. “Institutions typically evaluate derivatives providers across several key dimensions,” he says. “Regulatory standing and compliance are fundamental. Equally important is the quality of trading infrastructure. Firms that combine strong regulatory credentials with institutional-grade technology are best positioned to support the continued growth of digital asset derivatives markets.”

Seiler’s previous point about the depth of regulatory oversight a firm operates under is important and adds to that framework. Gressel draws the commercial implication. “As the market evolves, these factors will increasingly determine where institutional flow concentrates.”

The regulatory scaffolding is substantively in place and capital is committed. The execution infrastructure, for institutions willing to select for it, is capable of delivering outcomes that meet institutional standards. What remains is institutional judgment and evaluation.

In a market that has already demonstrated what happens when the architecture fails under stress, the choice of who to trust with that infrastructure is not just an operational footnote. It is a primary risk management decision.