

# Scaling institutional Digital Asset trading and investment capabilities: **Choosing the right track for dependable services**

By Vivek Shankar

DIGITAL ASSETS



Vivek Shankar



When President Trump signed the GENIUS Act into law last July, it marked the first time the U.S. put comprehensive crypto legislation on the books. Across the Atlantic, MiCA now governs roughly 82% of EU crypto transactions. Over 200 U.S. public companies hold Bitcoin on their balance sheets, up from fewer than 10 in 2021. The institutional on-ramp, long promised, is finally being paved. However, infrastructure remains a stumbling block. According to EY-Parthenon and Coinbase, 86% of institutional investors surveyed in January 2025 either hold digital assets or plan to allocate this year, with 59% committing more than 5% of AUM. That kind of capital needs execution, connectivity, risk controls, and portfolio visibility that can withstand the scrutiny of compliance departments and board-level oversight. The problem is that much of this infrastructure is still being assembled. Digital asset markets remain scattered across more than 200 active exchanges, with no dominant venue across all trading pairs. Settlement logic varies by platform. APIs lack the standardization that FIX brought to equities decades ago. And complexity is compounding as tokenized assets, derivatives, and DeFi liquidity push into institutional workflows.

Kyle Downey, Head of Product Strategy at Talos, and Brett Reeves, Head of Go Network and European Sales at BitGo, lay out what institutions should be demanding, and where the gaps remain.

### **BUILDING THE EXECUTION STACK FROM CONNECTIVITY TO SETTLEMENT**

The sheer number of trading venues is the first obstacle. There are more than 200 actively traded crypto exchanges globally, and that figure doesn't account for OTC desks, market makers, or the growing pool of decentralized liquidity (DEX volume alone hit \$877 billion in Q2 2025).

For an institutional desk accustomed to routing through a handful of primary venues via FIX, the digital asset landscape looks less like a market and more like a wiring diagram.

"In digital assets, it is important to offer a range of execution methods," says Downey. "Global connectivity to a wide variety of providers, RFQ/RFS for block trading, algorithmic execution for working orders over time, smart order routing to aggregate liquidity across venues, and TCA to assess liquidity providers and satisfy best execution reporting requirements." The EMS, he says, should give the trader "a full set of arrows in the quiver."

Reeves frames the same challenge from an architectural perspective. Institutional platforms, he argues, "should mirror traditional capital markets workflows while being natively digital-asset aware," supporting RFQ/RFS, algorithmic execution, block trading, pre-trade risk controls, and configurable approval hierarchies across spot, derivatives, and structured products. The key to speed and cost efficiency, he says, lies in "modular, API-first architectures that integrate execution, risk, custody, and settlement rather than bespoke builds."

Where it gets particularly interesting for institutional FX is in multi-leg execution. Downey points to the ability to synthesize liquidity paths through more liquid FX and crypto pairs. For example, constructing USDC/CAD out of USDC/USD offered by a digital asset LP and CAD/USD on a traditional FX market.

Multi-legs can also unify liquidity across stablecoin quote assets, allowing a desk to buy with USD, USDC, or USDT across multiple venues simultaneously to spread market impact. But connectivity is only half the battle. Maintaining it is the other.

“If your goal is to get to market quickly, it is worth considering white label options since the lift to customise is far lower.”



Kyle Downey

TALOS

Unlike equities or listed FX, where FIX has provided standardized messaging for decades, digital asset exchanges regularly update their APIs, sometimes with little notice. “Given the complexity not only of building these components, but also maintaining up-to-date connectivity as FIX and API interfaces change or new exchanges emerge, market participants do not want to build and maintain this stack,” Downey says.

The most cost-effective path, he argues, is a single point of integration to a complete liquidity network with

all the necessary tools built in. Talos now connects to roughly 80 liquidity providers and has processed over \$727 billion in volume since inception.

Reeves sees the resilience question in similar terms. Connectivity should be “diversified, redundant, and venue-agnostic to avoid concentration risk and single points of failure,” he says, with intelligent routing and automated failover across venues. With regards to on/off-ramps and banking relationships, he opines they should be “abstracted behind a single operational layer, supporting multi-currency accounts, local clearing schemes, and jurisdiction-specific controls.”

The build-versus-buy tension runs through both perspectives. Downey lays out the trade-off on front-end customisation: build your own UI for complete control, or adopt a white-label platform for faster time to market. “If your goal is to get to market quickly, it is worth considering white label options since the lift to customise is far lower than a full desktop and mobile

front-end build,” he says. Reeves pushes beyond surface-level branding: “The real value lies in workflow and control customization rather than surface branding. The best platforms balance flexibility with standardisation, enabling rapid deployment while preserving governance, security, and scalability.”

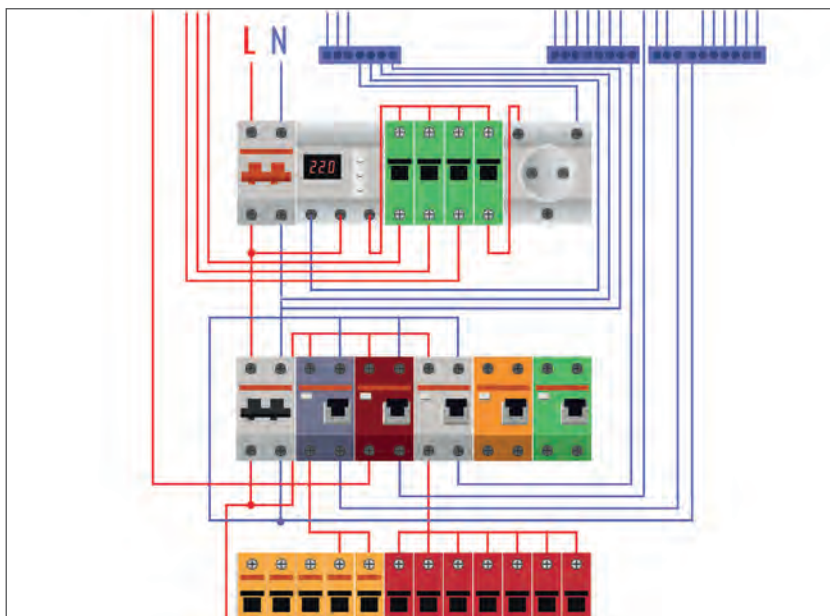
For institutions already running a single-dealer platform or in-house OMS, Downey’s practical advice is worth noting: it may be easier to simply extend what you have and code to a reliable OEMS API for digital asset markets, rather than rip anything out.

### THE DATA, ANALYTICS, AND THE PORTFOLIO VISIBILITY PROBLEM

Execution gets the attention, but post-trade (and increasingly, pre-trade) is where institutional digital asset operations tend to break down. The data challenge alone is formidable. MiCA has made transaction cost analysis a regulatory requirement in Europe, not merely a best-practice aspiration. And the range of strategies institutions are deploying demands very different levels of market data depth.

Downey draws a clear line between use cases. “A discretionary hedge fund might be able to operate with basic close-on-close prices, but would likely benefit from richer reference data and even on-chain data, such as a sophisticated sector taxonomy to organize a portfolio of diverse digital assets,” he says. A medium- or high-frequency systematic strategy, on the other hand, “is likely going to be looking for tick data and full order book, and will definitely be running strategy backtests against trade, quote, and alpha signal data.”

Reeves sets out what he considers the institutional baseline: “Real-time Level 1 and Level 2 pricing, full order book



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Brett Reeves

Downey underscores that TCA has implications beyond internal governance. Under MiCA, it is a regulatory obligation, and it also has value “as a way of assessing choice of liquidity provider.” Metrics, including slippage from arrival price, fill rates across venues, algo usage distribution, and fees paid, “enrich a trading firm’s understanding of how their EMS and their liquidity providers are performing.”

Where the conversation gets harder is portfolio visibility. The holdings of a sophisticated institutional player now span crypto spot, crypto derivatives, fiat currencies, single-name stocks, ETFs and ETPs, equity futures and options, and bilateral instruments like OTC options and loans.

Assets might be held at banks, traditional custodians, digital asset custodians, in brokerage accounts, or on an exchange. They might be idle or staked to generate yield. And that was before tokenised assets entered the picture.

depth where available, and high-quality historical tick data for back-testing and strategy evaluation,” complemented by reference data covering instruments, venues, fees, and trading hours.

On the analytics side, he expects platforms to deliver “institutional-grade TCA, including slippage versus arrival and VWAP/TWAP, spread capture, fill ratios, latency analysis, and venue-level performance.” These metrics, he argues, are “critical for best execution, governance, and ongoing strategy optimisation.”

The on-chain real-world asset market has surged from roughly \$5 billion in 2022 to \$24 billion by mid-2025, a 380% increase in three years. Private credit alone accounts for \$14 billion of that figure.

Tokenised U.S. Treasuries exceeded \$9 billion by November 2025, with BlackRock’s BUIDL fund attracting over \$2.3 billion in tokenised value by December. Standard Chartered projects that the broader tokenised asset market could reach \$30 trillion by 2034. For portfolio managers, that means yet another set of instruments, custodians, and settlement rails to integrate into an already fragmented view.

“Risk you cannot see is risk you cannot manage,” Downey says bluntly. “Incomplete position views also misrepresent portfolio P&L and require expensive and error-prone side-ledgers on spreadsheets or in internal systems.” Even leading firms in digital assets, he notes, struggle to assemble a complete picture of risk, positions, and P&L, “because few vendors adequately cover the full range, and building it from scratch is a tremendous effort.”

Reeves describes what the solution should look like: “Normalised positions, cash, exposures, P&L, and risk with consistent pricing policies and timestamps,” with the ability to reconcile on-venue, OTC, and custody balances, support collateral and margin visibility, and provide scenario analysis spanning both crypto-specific factors, like volatility, basis, funding, and traditional ones like rates and FX.

Critically, he says, most institutions “value seamless integration with existing PMS/IBOR/ABOR and risk systems over ‘rip and replace.’”

That last point may be the most commercially significant. For heads of desk at banks and large asset



The key to speed and cost efficiency lies in modular, API-first architectures

managers, the winning infrastructure provider will be the one that plugs cleanly into existing technology.

## RISK, COMPLIANCE, AND THE VALUE OF A RIGHT PARTNER

If the execution and data challenges are complex, the risk management picture is seemingly existential. In 2025, hackers stole \$2.7 billion in cryptocurrency, a new annual record, according to Chainalysis. The Bybit breach alone accounted for roughly \$1.5 billion, making it the largest single crypto hack in history.

Centralized exchanges accounted for approximately 79% of all breach value despite representing a fraction of total incidents. The common thread was not sophisticated code exploits but access-control failures, like compromised keys, flawed signing processes, and inadequate authorization layers.

For institutions, these are not abstract headlines. Digital assets are bearer instruments, and Downey argues that this fundamentally shifts the risk calculus. “The weighting on counterparty and operational risk is particularly high,” he says. “Whether through theft or exchange hacks or simple operational error, the risk of losing capital overnight is much higher.” The risk framework institutions apply to traditional markets, while familiar in structure, needs to be recalibrated for an asset class where a single key management failure can be irrecoverable.

Reeves lays out what that framework should contain: “Pre- and post-trade controls, limits by asset, venue, and counterparty, and real-time monitoring of exposures and margin.” On the technology side, he emphasises resilience, segregation of duties, and strong key and access management. Operationally, “controls around custody,



MiCA has made transaction cost analysis a regulatory requirement in Europe

settlement, and reconciliations must be institutional-grade,” underpinned by “robust compliance tooling — KYC/ KYB including audit trails, surveillance, and regulatory reporting across jurisdictions.”

Downey adds a dimension that extends beyond the firm’s own perimeter. “Effective screening of customer wallets to meet regulatory requirements and prevent financial abuse is also needed for any system connecting to global public networks,” he says. Internal policies like restricted lists, liquidity limits, and cash holding requirements “also need to be enforced effectively.” The risk system itself, he argues, needs to be sophisticated enough to recognise that a tokenised equity, for instance, carries the same underlying equity risk as its traditional counterpart, which demands both rich reference data and cross-asset risk modelling.

Regulatory infrastructure is catching up, at least partially. The OCC’s Interpretive Letter 1184, issued in May 2025, expanded the authority of national banks to provide crypto custody services. In September, an SEC no-action letter confirmed that investment advisers can treat state-chartered trust companies as qualified custodians for digital assets, provided they hold SOC

1 or SOC 2 reports confirming effective controls.

Leading custodians like BitGo, Anchorage, Coinbase Custody, and Zodia now routinely carry SOC 2 Type II certifications, and the institutional custody market is projected to exceed \$3.28 billion in 2025.

But regulatory progress does not eliminate the need for rigorous provider due diligence. Reeves sets a high bar for what “support” means in practice: “24/7 coverage for trading-critical issues, clear SLAs, named escalation paths, and proactive monitoring.” He expects onboarding runbooks, transparent incident communications including post-mortems, timely notices for venue changes and asset events, and documentation quality that extends to APIs, integration guides, and operational procedures. “Regular service reviews — latency, rejects, reconciliations, availability — and disciplined change management are baseline expectations,” he says.

Downey frames the provider relationship in broader strategic terms, drawing an analogy he believes captures the current state of the market. Digital assets, he argues, resemble an emerging market: “High



**THE RISK FRAMEWORK INSTITUTIONS APPLY TO TRADITIONAL MARKETS NEEDS TO BE RECALIBRATED FOR AN ASSET CLASS WHERE A SINGLE KEY MANAGEMENT FAILURE CAN BE IRRECOVERABLE**

risk, and the risk is idiosyncratic; offer significant growth opportunities if you know where to look; have immature infrastructure, but a chance to leapfrog more developed markets; introduce unique jurisdictional requirements; and require local knowledge to succeed.”

The implication is that a top-tier infrastructure provider is not just selling software or connectivity. “The consultative part of the relationship — best practices as seen across the market, emerging themes, introductions to potential partners — has a standalone value over and above the embedded expertise in the products and services,” Downey says, “especially

for those newly entering the market.”

Reeves distills the selection criteria to their essentials: “Institutions should prioritize providers that combine financial-market credibility with deep digital asset expertise.” Technology should be “modular, interoperable, and asset-agnostic, enabling rapid integration without lock-in.” But what matters equally, he argues, is “high-quality, professional support across onboarding, production, and growth phases. In a fast-evolving market, partners that invest in long-term stability, transparency, and innovation will ultimately matter more than point-solution features.”



For heads of desk at banks and large asset managers, the winning infrastructure provider will be the one that plugs cleanly into existing technology

Both perspectives converge on the same conclusion. In a market this young and this fast-moving, your infrastructure partner’s judgment and market intelligence may be as valuable as its technology. For institutions scaling into digital assets, getting this right is no longer optional.

### SCALING INSTITUTIONAL DIGITAL ASSET OPERATIONS FROM EXECUTION TO RISK

The institutional digital asset market has crossed an inflection point. The regulatory scaffolding is in place with MiCA in Europe, the GENIUS Act in the US, and expanding OCC custody guidance. Capital is committed: 86% of institutional investors surveyed by EY-Parthenon and Coinbase hold or plan to hold digital assets, and over three-quarters intend to increase allocations. The question facing institutions is no longer whether to participate, but whether the infrastructure they’re building on can bear the weight of what’s coming.

That weight is considerable. Tokenised assets are compounding portfolio complexity. Fragmented liquidity demands execution sophistication that most in-house teams cannot economically maintain.

And the security landscape, \$2.7 billion stolen in 2025 alone, leaves no margin for error in custody, key management, or counterparty controls.

The firms that navigate this well will be those that treat infrastructure selection as a strategic decision: one that shapes execution quality, risk exposure, regulatory readiness, and ultimately, P&L.

The technology has to work. But so does the partnership behind it.