the ValueExchange

Treasuries On-Chain: An industry case for change

Essential learning points from live trades using US Treasuries on Canton Network

In partnership with

Digital Asset

Contents

1. Introduction

Every day, trillions of dollars-worth of US Treasuries are used as collateral to support financial market transactions. Yet these flows that provide essential liquidity to today's markets are supported by a largely manual post-trade environment, where each transfer implies time and risk. And at 18:45 on Friday night[1], all that collateral stops moving.

But a series of recent, foundational repo transactions in July and October 2025 have provided powerful evidence of what's possible today. In these trades, Bank of America, Brale, Circle, Citadel Securities, Cumberland DRW, Digital Asset, The Depository Trust & Clearing Corporation (DTCC), Hidden Road, M1X, Société Générale, Tradeweb, and Virtu Financial all supported a short-term repo of on-chain US Treasury bills versus stablecoins, using the Canton Network.

These trades, which involved real cash moved by regulated financial institutions on two separate weekends, represent a new blueprint for capital mobility. Through tokenization, banks and their clients have freed traditional assets from the constraints that have so far limited balance sheets and operational teams across the world. In using stablecoins as cash, they have also begun to mobilize a new liquidity class that has so far remained out of reach of institutional investors. In taking these steps, they have provided hard, real evidence of the power of tokenization and digital assets in 2025's capital markets.

These trades are the latest step in the joint work that Digital Asset, DTCC and numerous financial services institutions have been undertaking together since 2024.

Drawing on extensive debriefs with all of the key parties to this trade, this paper provides fresh, practical insight into the exact drivers, benefits and challenges that are inherent in collateral tokenization today. Based on feedback from those who are tokenizing collateral today, it is intended to support more firms as they consider how and why to leverage the benefits of tokenization to transform their own balance sheets in 2026 and beyond.

[1] Fedwire cut of for RAD approved firms in the US

Key industry challenges

Manual burden x2

Both sides of the trade asking “will my collateral arrive and when?”

Under-utilization, pre-positioning and over-provisioning

The opportunity cost of poor mobility.

Limited ability

Limited ability to react to real-time crises / liquidity crunches.

Key benefits of tokenized collateral

USD 268bn

New liquidity

Unlocking more than **USD 268 billion**[2] in stablecoin collateral.

USD 243tn

Collateral mobility

Real-time trading, margining and **USD 243 trillion**[3] in new collateral

USD 54M

Operational efficiency

USD 54 million in operational savings in the USA alone[4] without sacrificing risk or income

120 hrs

Treasury efficiency

120 more hours in a week.

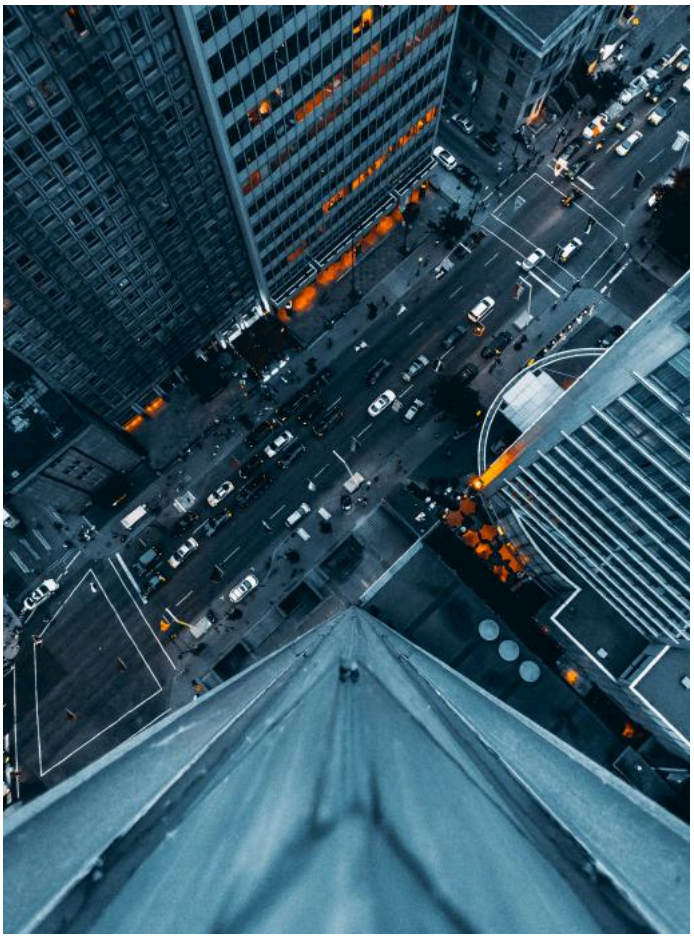
[2] Total value of stablecoins in issuance in October 2025, based on rwa.xyz

[3] Total value of stablecoins in issuance in October 2025, based on rwa.xyz

[4] Assumes 0.5 FTE dedicated to collateral movements and reconciliations, costing USD 60,000 per annum per firm. This cost is multiplied by the 200 FICC clearing participants (USD 12 million in total costs) and by the 3,500 NSCC member-firms (USD 42 million in total costs)

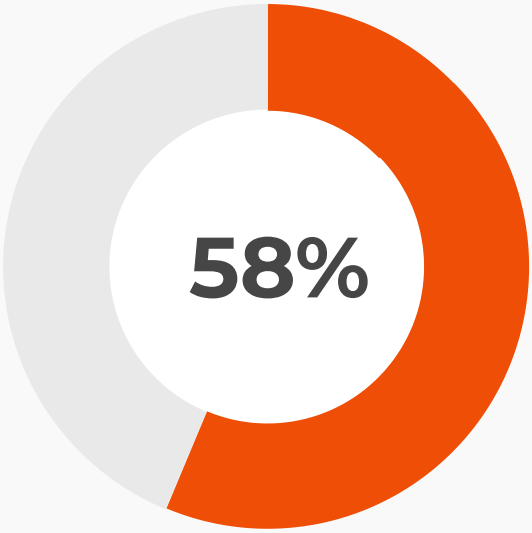
2. The challenge

What is the business case for tokenizing real-world assets?



Across the world's capital markets, investors and their brokers and market makers face a series of unavoidable frictions across the trade cycle – which combine to create a drag on investment performance by triggering a series of operational and treasury costs.

% of firms facing issues in collateral management and margining today



Based on our research, 58% of market participants are facing issues in the management of their collateral and margining today. These challenges are driven by a range of factors:

Operational Challenges

Manual burden x2:
Both sides of the trade asking "will my collateral arrive and when?"

Treasury Costs

Under-utilization, pre-positioning and over-provisioning:
The opportunity cost of poor mobility

Market Risk

Limited ability to react to real-time crises / liquidity crunches

A. Operational challenges

"Management of client collateral is deliberately slow in order to ensure that it is very clear where everything is in a default scenario."

Joel Stainton, Head EMEA Futures & Options and OTC Clearing, Bank of America

Manual Burden x2

The manual effort required for collateral movements, including substitutions, is a major operational drain. Every **movement or substitution not only has to be actioned**, but it has to be **verified and logged by both counterparties** – creating a compounded cost effect.

Outdated Technology

This slow pace is compounded by a reliance on legacy systems, which are unable to process transactions to the speed or sophistication required today. Over **30% of North American back offices are considered to be underperforming** and in need of change.

Reconciliation costs

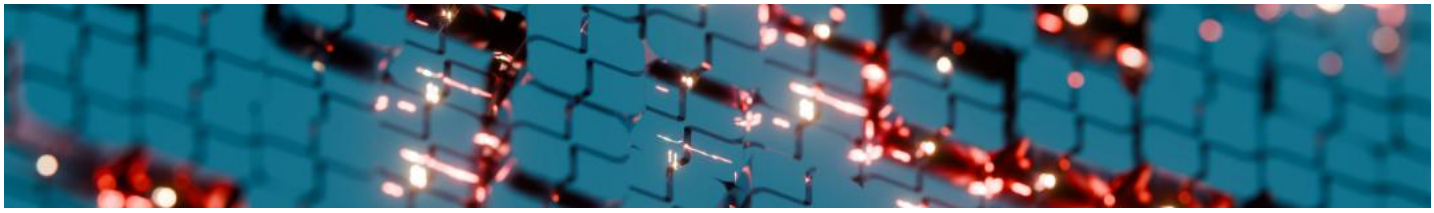
In addition to daily movements of cash and securities collateral, positions and balances have to be reconciled on a regular basis. With the average institution **posting collateral across 11 locations**, the costs of managing daily reconciliations are significant.

Staff costs and exposure

These operational complexities create a need for **extra staff to manage the timely delivery of collateral –** which means that collateral can only move when staff are available. On weekends and in times of volatility and stress, human limitations can present themselves very fast.

Processing limitations

Based on this manual technology, firms can struggle to manage sophisticated processes such as earmarking, (changes to) eligibility and **complex multiparty transactions** – further limiting their ability to optimize risk and liquidity.



B. Treasury costs

“I can’t make a financing decision right now and get it done…for hours or days”

Burning carry

Faced with delays in their collateral movements (because of the above operational issues), firms cannot hold onto yield-bearing securities for as long as they would like. Firms are "burning carry" and **losing potential income because their collateral** is held in non-yielding cash overnight or over weekends instead of for just minutes – creating a performance drain.

Buffering

Faced with uncertainty in their collateral movements, firms would always choose to over-collateralize than to be in default (i.e. short of collateral) – meaning that they also have to set aside up to **4% of their total collateral obligations** as reserves just in case it is needed. These collateral reserves, or buffers, carry an opportunity cost, set against the inability to re-use these securities for funding or collateral elsewhere.

Guesstimating for weekends

The inability to move collateral during evenings and weekends compounds this problem, with firms **relying on guesswork to calculate exposures at the end of their week.** The cost of any potential inaccuracies in these funding estimations (from Friday night to Monday morning) is vast.

Ineligibility of new funding

Of the **USD 270 trillion in marketable securities today, only around one in ten is being used as collateral.** With vast quantities of assets ineligible for financing today, firms are unable to use the full power of their holdings to support their daily activities – creating a significant opportunity cost in lost financing power. Even worse, these same asset holders are today often forced to borrow (at punitive rates) to ensure that they have the right volumes of eligible collateral – adding the cost of borrowing new assets to the lost power of existing ones.

Add to this the fast-growing volumes of stablecoin holdings and the cost of ineligible assets escalates even further. With privacy and data permissioning issues preventing many institutional firms from mobilising existing, on-chain assets as collateral, an additional **USD 268 billion in stablecoin holdings are immobile** today – when they should be generating financing returns.

C. Market risk

Ineffectual decision making

The cost of insecurity isn't the only consequence of today's slow and manual collateral processes. The ability to react quickly to market conditions is also a major obstacle – given the **extensive time-gap between the trade and its settlement.** A funding need may present itself right now, but may take hours to finally close out.

Accumulated risk

This lack of asset mobility can exacerbate disruptions during market stress, when the quantum of margin obligations can escalate significantly, creating a major funding risk for firms. As we saw during the Silicon Valley Bank crisis, **margins accumulated from Friday into the following week,** with participant obligations leaping quickly and firms unable to manage their margin and funding on an ongoing basis.

Hidden exposures to bank-runs

With the growth of instant payments, "liquidity crises are now measured in minutes, not days" – creating a significant, hidden risk for holders of securities collateral. With slow substitution and conversion processes, **firms can find themselves critically short on funding during times of high market stress** – within mere minutes.

"We have to be able to move [collateral] assets at the time and pace that markets move."

Chris Zuehlke, Partner, DRW

"We've built 24/7 trading, but it doesn't mean anything unless you can settle 24/7"

Justin Peterson, CTO, Tradeweb

D. DeFi challenges

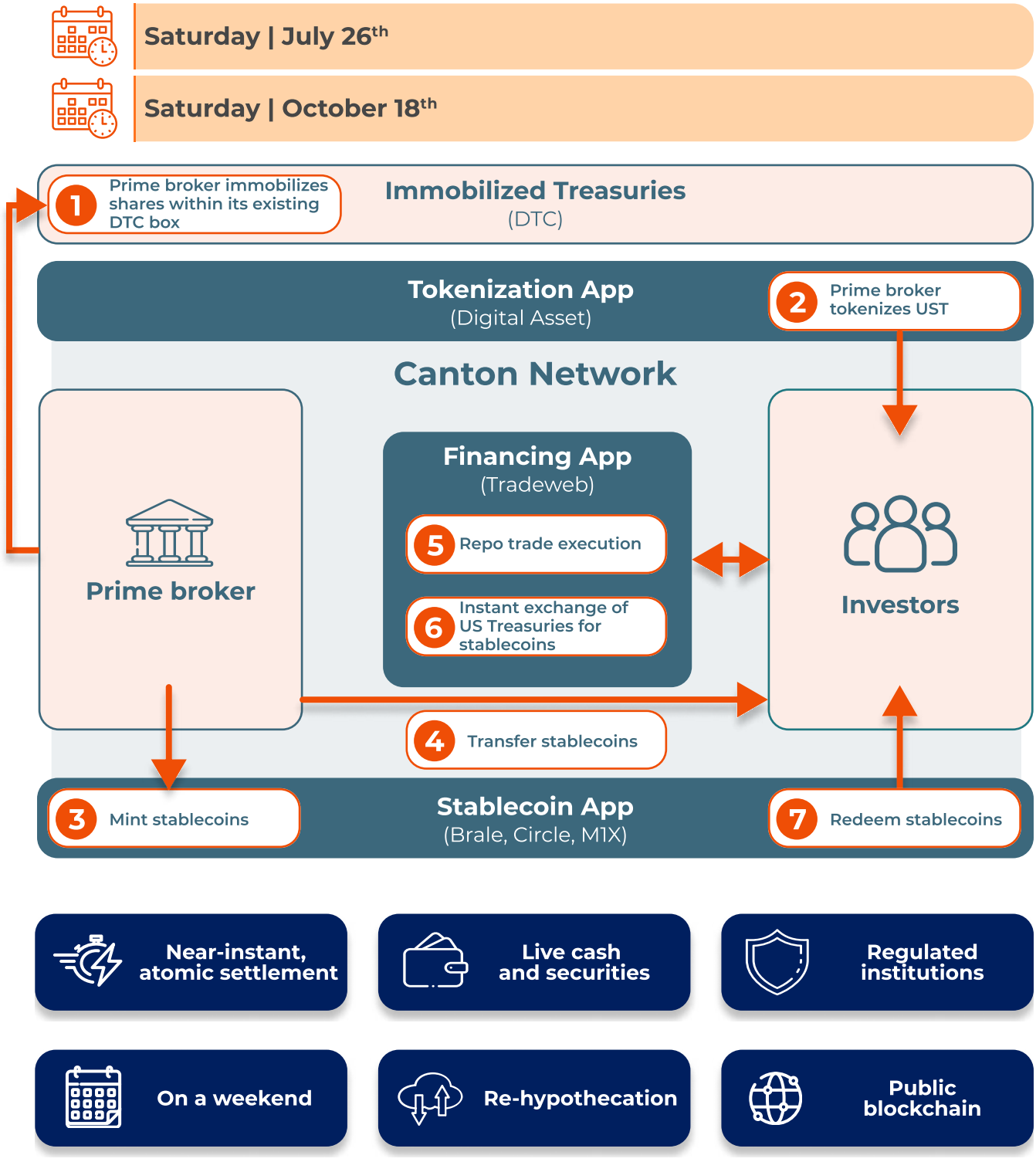
“The problem is that I don’t want people to be able to see my collateral move.”

Chris Zuehlke, Partner, DRW

In the DeFi space, firms face an entirely different problem statement. Real-time, multi-party transactions on-chain are possible today, 24/7 and so the technical and workflow limitations around stablecoin mobility are small by comparison. But when coins are running on public blockchains, privacy and confidentiality become the core blocking points to on-chain financing. People simply don’t want to give away all of their trading and asset information – and without the ability to hide their positions, many trading houses are reluctant or unable to participate in on-chain funding activities, leaving growing volumes of stablecoins and cryptocurrencies immobile. In a world where mobility is maximized, privacy is now a critical enabler.

3. What just happened?

On two weekends, Bank of America, Brale, Circle, Citadel Securities, Cumberland DRW, Digital Asset, The Depository Trust & Clearing Corporation (DTCC), Hidden Road, M1X, Société Générale, Tradeweb, and Virtu Financial traded a short-term repo of tokenized US Treasury bills versus USDC, USDM1 and SBC stablecoins, using the Canton Network and drawing on securities accounts held at the DTCC.



This trade was unique in demonstrating the viability of a new generation of collateral trades, bringing together regulated institutions to use new networks to move new assets at new times.

On Chain Real-World Assets (RWAs)

Prime brokers held client US Treasuries in custody accounts at a DTCC subsidiary, the Depositary Trust Company (DTC), so that they could then be tokenised by firms to create on-chain US Treasuries on the Canton Network, unlocking their utility as freely transferable collateral.

Importantly, these assets were not derivative representations of the underlying assets – they represent the same legal and economic rights to the US Treasuries. This means that all considerations around 'same asset, same risk' were fully addressed, optimising asset safety and liquidity.

Native On-Chain Stablecoin Liquidity

Stablecoins were minted and redeemed on the Canton Network specifically to demonstrate this use case while supporting near-instant liquidity and atomic settlement.

Round-the-Clock Financing

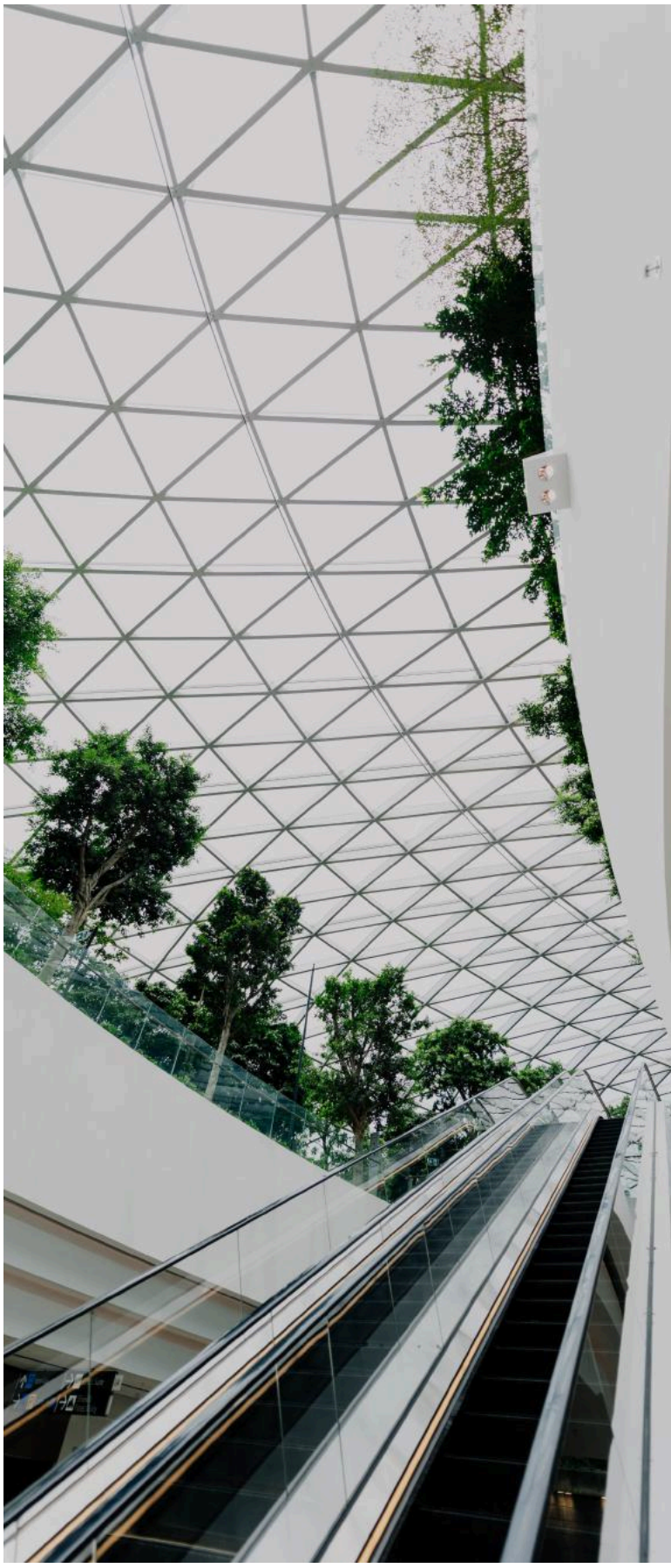
The transactions occurred on Saturdays, demonstrating the ability to access financing outside traditional global settlement windows – in real time.

Industry Collaboration Beyond Individual Trades

These transactions represent a foundational activation for the broader Canton Network Working Group, encompassing traditional financial institutions and digital asset market participants.

Full Mobilization

Through these trades, on-chain assets were then re-hypothecated and lent onwards after the initial repo, evidencing the full lifecycle viability of on-chain collateral in a live environment.



4. What does this mean for collateral and repos?

Today, 85% of firms today see the enablement of intraday liquidity management as the key benefit of DLT and digital assets, signaling a powerful industry-wide consensus on the need for change.

The above repo transactions are not only tangible evidence of this enablement in practice, but also the latest step in a continuing path of development that has led to:

Key Benefits

Operational efficiency
USD 54 million in operational savings in the USA alone[5] without sacrificing risk or income

Treasury efficiency
120 more hours in a week

New liquidity
More than USD 268 billion in stablecoins as collateral

Collateral mobility
Real-time trading, margining and USD 243 trillion in new collateral

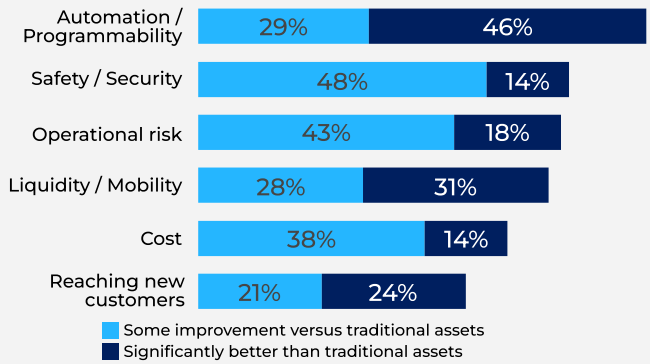
Current State of tokenized collateral

USD 4 trillion in monthly tokenized collateral turnover today

Live margining using tokenized collateral at leading CCPs (such as Eurex)

29% of banks and brokers planning to use tokenized collateral in 2026

How does tokenization of collateral compare against traditional processes?



The atomic settlement of initial margin is fast becoming a reality – but what does this mean in practice for collateral givers, takers and managers? What did the counterparties to this trade learn from the experience?

[5] Assumes 0.5 FTE dedicated to collateral movements and reconciliations, costing USD 60,000 per annum per firm. This cost is multiplied by the 200 FICC clearing participants (USD 12 million in total costs) and by the 3,500 NSCC member-firms (USD 42 million in total costs)

A. Operational efficiency

USD 54 million in operational savings in the USA alone[6] without sacrificing risk or income

"Nothing is changing. It's still USD T-Bills. They just move faster and on the weekend. It's everything you know just done faster and cheaper"

Automation

With instantly transferable collateral, the management of settlements, substitutions and lifecycle events can be automated and **remove around 0.5 FTE in costs** per business unit (on each side of every collateral movement).

Automation of multiple counterparty trades

Highly complex collateral trades and substitutions can then be automated to ensure instant, **simultaneous, risk-free delivery across multiple counterparties** – removing costs and risk.

Programmable trade cycles

Similarly, trades can be pre-configured using smart contracts so that collateral can move (with complete certainty), **the second that specific conditions trigger a need.**

Automated logging

With a complete and automatic audit-trail, all transactions can be **logged and monitored with minimal effort** – not only for subsequent reviews but also as an input into new actions (e.g. triggering new substitutions or changes in haircuts), increasing security and reducing risk.

Corporate action entitlements

Even corporate actions can be improved using tokenization – giving **holders of securities the ability to trade off entitlements** for the maximum amount of time.

Automated compliance and risk management

Also using smart contracts, **compliance features (such as OFAC checks and claw back) can be embedded** automatically as part of the collateral chain, further removing the risk and cost of manual tracking.

[6] Assumes 0.5 FTE dedicated to collateral movements and reconciliations, costing USD 60,000 per annum per firm. This cost is multiplied by the 200 FICC clearing participants (USD 12 million in total costs) and by the 3,500 NSCC member-firms (USD 42 million in total costs)

B. Treasury efficiency
120 more hours in a week

Reduction in overnight and weekend funding

Tokenization can help to deliver 120 more hours of financing activity every week by enabling trading (and delivery) 24 hours a day, 7 days a week. This means **170% more time to deploy assets** and to derive new earnings from them – turbo-charging financing as a driver of investment performance

Weekend certainty

Leveraging 24/7 mobility, firms can then replace the costly guesstimation of funding requirements over weekends with real-time reactivity – **adding new precision to their weekend** balance sheet management

Reduction in intraday costs

With real-time mobility, the "Burning Carry" problem can be significantly reduced during the trading week as well. Yield-generating **assets can be converted only at the second they are needed** – saving hours (and days) in conversions and transfers throughout the trading day.

C. New liquidity
Unlocking more than USD 268 billion in stablecoins as collateral

"Privacy elements are now in production all day every day – giving people access to on-chain funding, in private"

Ben Milne, Founder and CEO, Brale

Configurable privacy per transaction

As the trade also demonstrated, regulated institutions now have access to the technology that can enable specific and granular permissioning of data elements (around the trade and on broader inventory), as we explain below. This technology opens up **USD 268 billion in existing on-chain stablecoins** as new collateral assets for future transactions.

This access is underpinned by the ability of firms to access public blockchains, whilst retaining complete control over the privacy of their collateral holdings and inventory. Leveraging Canton's permissioned network, each transaction and data item can be individually permissioned, meaning that asset holders retain the privacy that is so critical to their trading.

How Canton Solves the Privacy Problem

These trades demonstrated why Canton's approach to privacy is different, giving each firm full control and sovereignty around every level of data that they have and share

DTC (depository)

Only knew that a prime broker was holding US Treasuries on behalf of its clients. The details of which repo clients were transacting were entirely invisible to the DTC.

The Prime Broker

Retained visibility into its own client repo activity, consistent with legal agreements and current market practice.

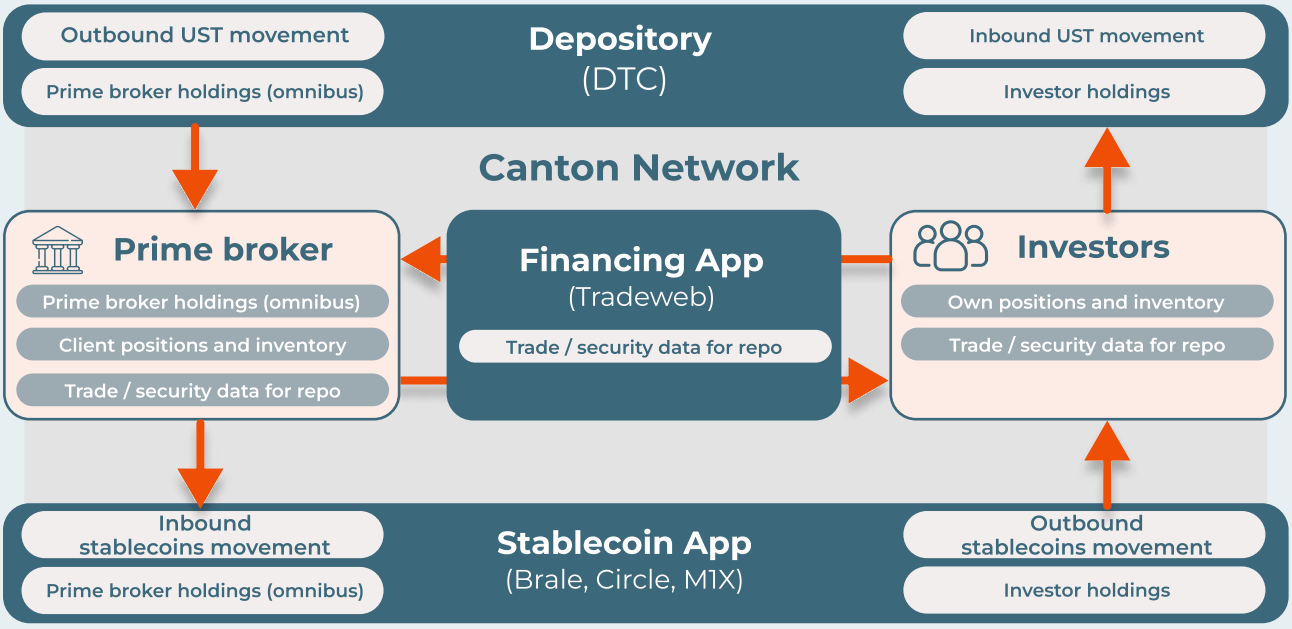
Tradeweb's financing app

Accessed only the subset of data needed to process the repo transaction; it did not see the client's broader holdings at the prime broker.

This model - often described as "sub-transaction privacy"- ensures that each party only sees what they are contractually entitled to, and no more.

During the trade

Canton enforces this privacy and confidentiality at the sub-transaction level. Each data element is permissioned so that only the relevant counterparties and service providers have access. The result is that a repo transaction can be executed in real time, with stablecoins and on-chain Treasuries moving atomically, while still preserving the same privacy and confidentiality rules that underpin today's financial markets. Market participants can therefore unlock new liquidity without disclosing sensitive balance sheet information to competitors, infrastructure providers, or the broader ecosystem. In practice, this privacy framework is what allows institutional firms to treat on-chain financing as a seamless extension of established market workflows, gaining the benefits of 24/7 collateral mobility without compromising client confidentiality.



Who see's what: data permissioning in practice across the Canton Network

D. Collateral mobility

Real-time trading, margining and trillions of dollars in new collateral

"CCPs would be able to margin in real time if they had certainty of real-time delivery. It's the delivery that's the issue"

Chris Zuehlke, Partner, DRW

Today, legacy technology limitations (and the issues cited above) create a critical lag for margin calculations today, with the gap between market activity and margin delivery exceeding one day in many cases:

First CCPs calculate margins based on current or historical market volatility.

CCPs then post their margin calls to participants.

Margin payments and deliveries are then made. (up to 18 hours after the margin call on weekdays and 64 hours on weekends).

Certainty means real-time margining

Complete certainty of their margining would then mean that CCPs and collateral takers could move seamlessly to intraday or real-time margining – and **return more capital to market participants.** Risks could be identified and margined as they evolve, removing costly provisions that today span entire days of potential market risk.

Better haircuts

Certainty would not only eliminate the potential for major swings in margin calls, but it would also potentially reduce haircuts on collateral (i.e. cost of reselling collateral). Today, these haircuts risk being overinflated to take into account major swings in valuations during periods of volatility. If collateral assets could be disposed of quickly and incrementally then **haircuts can be reduced and capital efficiency further increased.**

New collateral types

With these levels of risk management available (and underpinned by real-time mobility), new asset classes would then also become eligible as liquid assets. **Emerging market debt and ETFs** are often cited as leading examples of what could be possible, spanning over USD 1 trillion in potential, new collateral types.

Next stop: Real-time trading

The benefits of real-time collateral mobility are not limited to the world of financing. With zero latency between trade execution and settlement, tokenization can also empower trading platforms and venues – allowing brokers to act with greater certainty than ever, with less risk.

"Now we get to see the settlement happen. As a trading platform, that is an incredible benefit"

Justin Peterson, CTO, Tradeweb

E. Who wins from tokenization? Everyone holding a treasury today

“Tokenization looks like it will have a positive impact for the FCM and the prime broker, and the potential benefits for clients and for their collateral are huge”

Joel Stainton, Head EMEA Futures & Options and OTC Clearing, Bank of America

Experience from July and October’s trades underlines the transformative power of tokenization for the world’s collateral and finance markets. It has also demonstrated that the **true winners from tokenization are all of the firms that hold and trade assets today** (including traders, market makers and investors). Whilst market participants (i.e. prime brokers and clearing members) are likely to see their operating costs improve in a tokenized world, asset owners will be able to (re)deploy their interest-earning assets faster and more effectively across the seven-day week. In doing so, they will be able to drive new levels of portfolio performance for pension holders and institutions around the world.

5. Making tokenized collateral a reality

Critical considerations

“This is an active, not a passive journey. It is an intensive effort to keeping up with high volume of updates and programming changes as the ecosystem evolves rapidly.”

With eight financial services firms now having participated in a live repo using tokenized assets, the body of experience around how to make the above benefits a daily reality is growing.

What did we learn about the implementation plan?

Enterprise awareness

The central challenge to many tokenization and digital asset projects is getting everyone on the same footing. With differing levels of readiness, of education and of risk appetites across each regulated firm, the risk of having every participating firm running at a different speed is real (across technology, legal, compliance and operations). The time spent advising and informing critical stakeholders across each firm (both TradFi and DeFi) is an essential and unavoidable part of today’s digital projects.

“You don’t realize how much goes into every single action on an instrument. Just one FX trade has so many touchpoints across compliance, legal, credit, ops, etc.”

Handling the speed

“Which participants and platforms are ready for real time?”

Chris Zuehlke, Partner, DRW

Similarly, ensuring that both systems and people can handle real-time processing in each firm is a critical step in the realization of the business case for tokenization. With extensive dependencies on legacy platforms and on manual processes (such as client onboarding, sanction screening, etc.) in many banks, it may take longer for them to see the returns of real-time mobility.

Legal certainty

How to ensure that the tokenized ledger entries reflect ownership, not the promise of ownership – with no derivatives or impediments during a default? This consideration has been at the forefront of leading collateral houses and reflects the unique strengths of this DTC-based model.

"This has to be a case where a bond is just [treated as] a bond."

Joel Stainton, Head EMEA Futures & Options and OTC Clearing, Bank of America

Eligibility

"Token eligibility by CCPs is key. Then financing providers will join, and liquidity will grow."

CCPs, Central Banks and collateral takers are pivotal drivers of token adoption. If they accept tokens, then liquidity can grow. If they don't then tokens lack value. This adoption requires legal certainty (as above) and the ability to manage the risk of tokenized assets – both critical steps in the industry adoption journey.

FMIs as a critical enabler

In this context, the role of FMIs is critical in enabling the adoption of tokenized collateral. First, they provide a single, industry rule book for everyone to follow. Second, they can (often) issue tokens as securities with little or no change in the legal status of those securities. Third, they operate within the regulated capital markets and hence provide regulatory clarity and comfort for participants. Finally, they are at the heart of the ecosystem and hence play a unique role in bringing firms together to offer standardized, resilient and regulated access to securities.

"Full mobility comes only when tokenization is being run by the depo. If an FMI does it, this is all seamless and it's just a tech upgrade."

Flexibility matters

"The key is offering different pathways to adoption for different profiles of firms, at different levels of maturity. Some will take a node, others will ask for nodes as a service."

Not every firm can deploy the same operating model today. Some may be ready for a node, for example, whilst others are not. Flexibility in the ecosystem (across both processes and technology) is an essential part of every collaborative project, so that wide ranges of critical needs can be met in order for a critical mass of firms to come together.

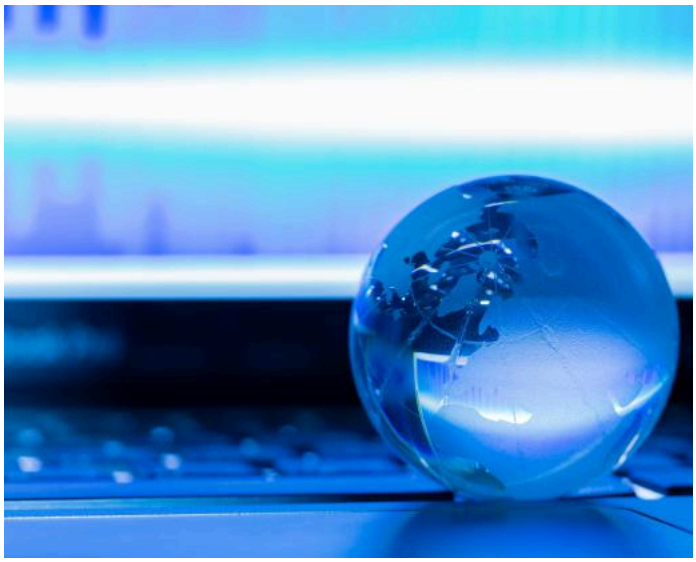
Work in progress

Similarly, roles and positions of participant firms are continuing to evolve across the ecosystem. One firm may be tokenizing securities today but not tomorrow. It is critical that firms be comfortable with this evolving landscape and that they be ready to participate in an open conversation with peers and providers, to shape the roles and models of tomorrow.

"It's all about people finding and (re)defining their roles. How does everyone fit? It's not about disruption anymore, it's about an honest and open discussion of where the value is."

6. Next steps?

July and October's live trades were the latest step towards the successful tokenization of over 90% of the world's assets, which are currently not used as collateral in today's global markets.



Yet today's collateral markets are highly complex and the journey towards the full realization of the above benefits will be one of many steps. From these trades, future phases are set to include increasing levels of complexity in the ecosystem – including the participation of multiple custodians and of asset managers.

Acknowledgements

BANK OF AMERICA

Brale

CIRCLE

CITADEL | Securities

CUMBERLAND
A DRW COMPANY

Digital Asset

DTCC

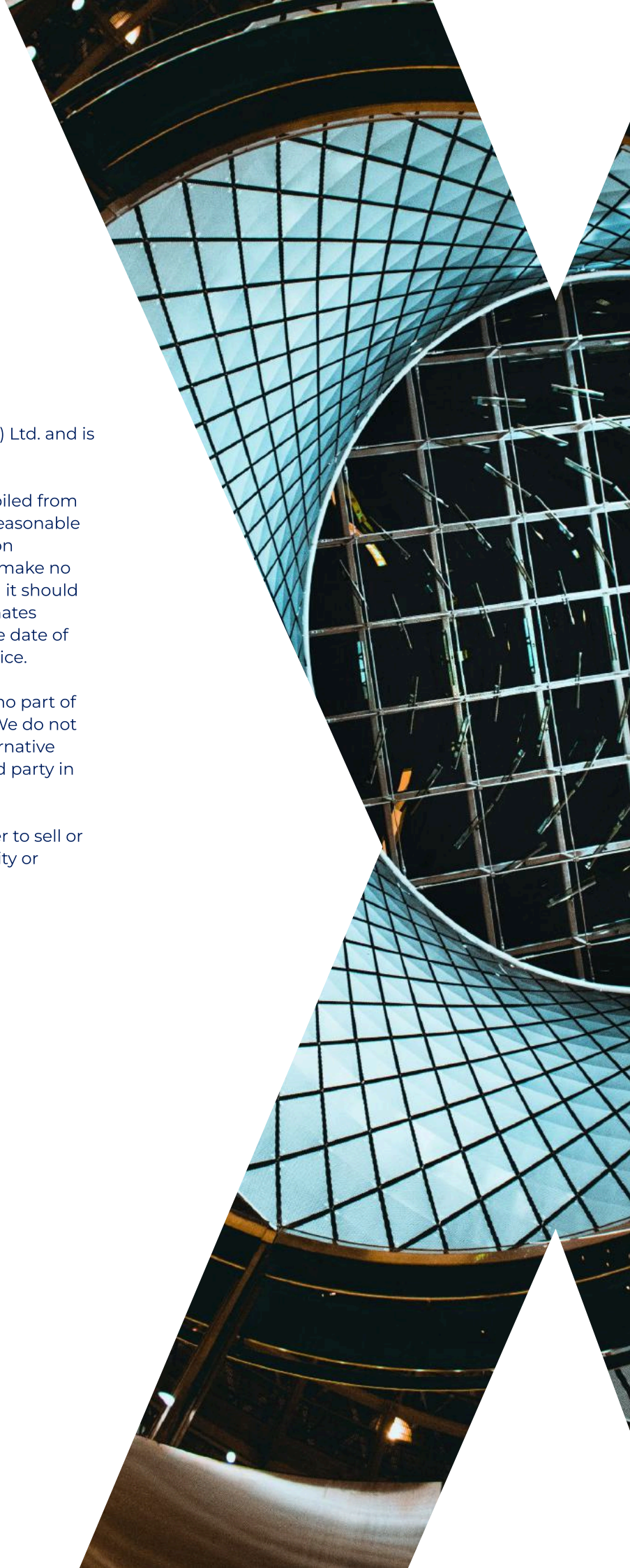
HiddenRoad

M1X

SOCIETE GENERALE

Tradeweb

VIRTU FINANCIAL



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