the ValueExchange

Treasuries on-chain: An industry case for change

Essential learning points from live trades using US Treasuries on Canton

In partnership with

Digital Asset

Contents

Introduction

Every day, trillions of dollars-worth of US Treasury bills are used as collateral to support financial market transactions. Yet these flows that provide essential liquidity to today's markets are supported by a manual, and risk-prone post-trade environment, in which cash and securities collateral are exchanged slowly and with significant effort by both parties. And at 18:45 on Friday night[1], all that collateral stops moving.

But a recent, foundational transaction has provided powerful evidence of what's possible today. On Saturday July 26th 2025, Brale Circle, Citadel Securities, Cumberland DRW, Digital Asset, The Depository Trust & Clearing Corporation (DTCC), Hidden Road, M1 Finance, Société Générale, Tradeweb, and Virtu Financial all supported a short-term repo of tokenized US Treasury bills versus USDC stablecoins, using the Canton network.

This trade, which involved real cash moved by regulated financial institutions on a weekend, represents 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.

The trade is the latest step in the joint work that Digital Asset and DTCC have been undertaking together since their initial pilot in 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

Introduction

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 to react to real-time crises / liquidity crunches

Key benefits of tokenized collateral

Operational efficiency

USD54 million in operational savings in the USA alone[2] without sacrificing risk or income

Treasury efficiency

120 more hours in a week

Privacy

Unlocking more than **USD268 billion** in stablecoin collateral

New possibilities

Real time trading, margining and **USD243 trillion**[3] in new collateral

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

58%

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

> "Today, firms are deliberately slowing down liquidity to manage their risk. 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 **50% of European and Asian 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.
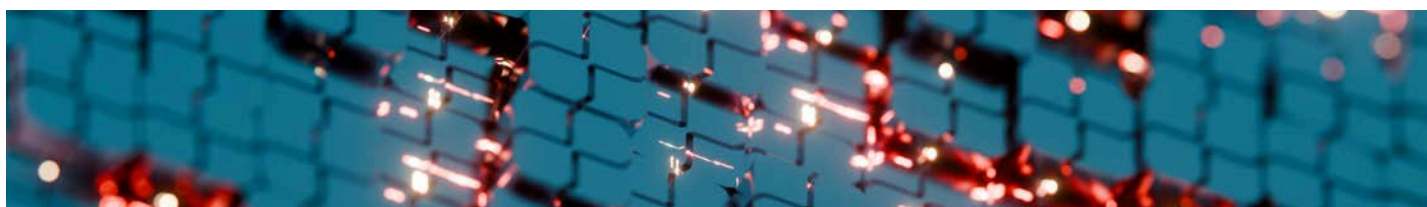
b. Treasury costs

> ## "I can't make a financing decision right now and get it done…for hours or days"
>
> Vineet Birman, Head of Treasury Quantitative Research, Citadel

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 **USD270 trillion in marketable securities today, only around one in ten[4] 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 **USD268 billion in stablecoin holdings are immobile** today. – when they should be generating financing returns.

[4] To add source

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."**
>
> Chris Zuehlke, Partner, DRW

In the DeFi space, firms 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.
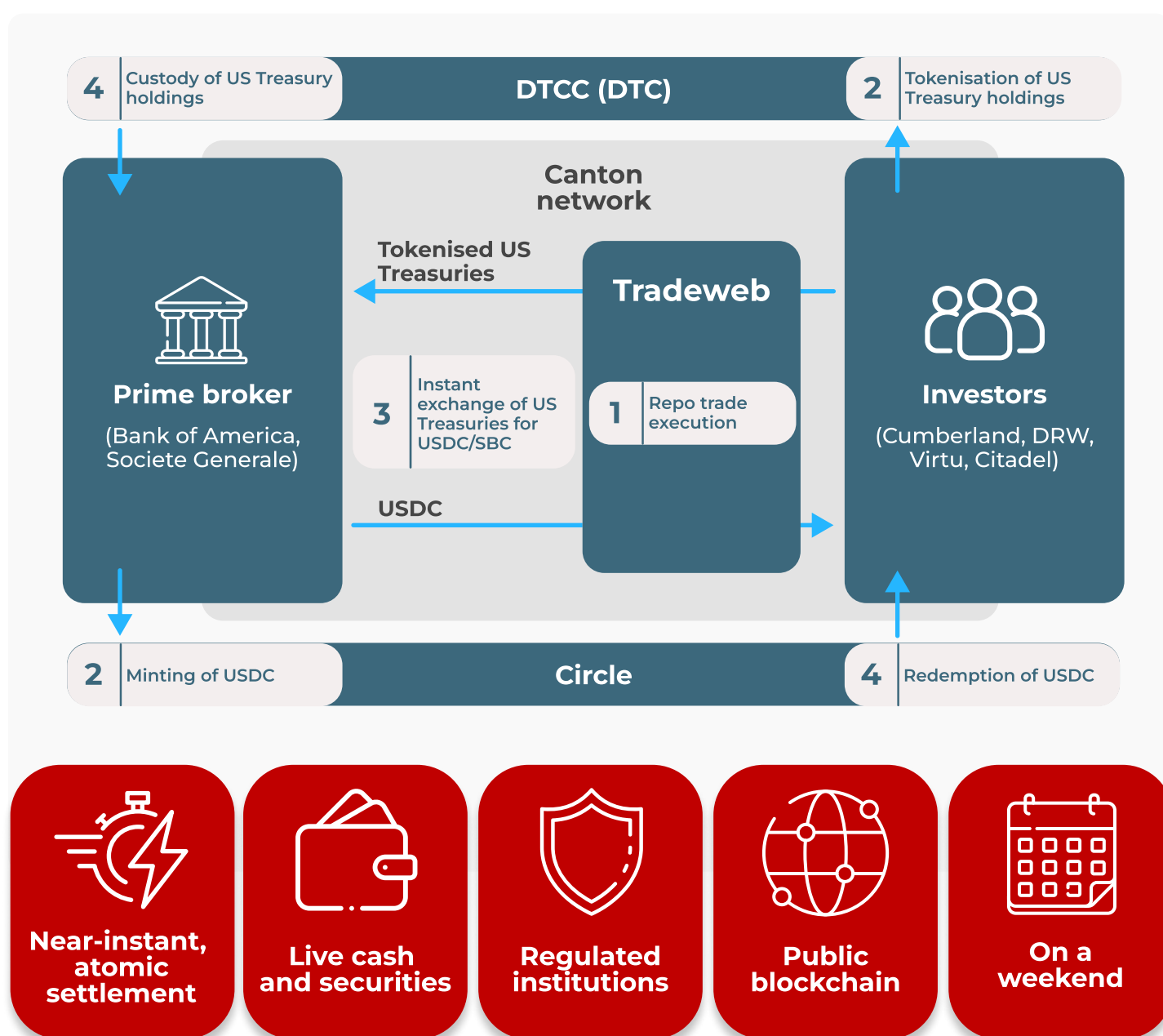
What just happened?

On Sat July 26th, Bank of America, Brale Circle, Citadel Securities, Cumberland DRW, Digital Asset, The Depository Trust & Clearing Corporation (DTCC), Hidden Road, M1 Finance, Société Générale, Tradeweb, and Virtu Financial traded a short term repo of tokenized US Treasury bills versus USDC and SBC stablecoins, using the Canton network and drawing on securities accounts held at the DTCC.

Saturday | July 26th at 10:00 am

DTCC (DTC)

| 4 | Custody of US Treasury holdings |
| 2 | Tokenisation of US Treasury holdings |

Canton network

Tokenised US Treasuries

Tradeweb

| 1 | Repo trade execution |

| 3 | Instant exchange of US Treasuries for USDC/SBC |

USDC

Prime broker
(Bank of America, Societe Generale)

Investors
(Cumberland, DRW, Virtu, Citadel)

Circle

| 2 | Minting of USDC |
| 4 | Redemption of USDC |

Near-instant, atomic settlement

Live cash and securities

Regulated institutions

Public blockchain

On a weekend

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 custodied accounts at a DTCC subsidiary, The Depository Trust Company (DTC), and enabled their clients to create on-chain US Treasuries on the Canton Network, unlocking their utility as freely transferable collateral.

## Native On-Chain Stablecoin Liquidity

USDC was 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 transaction occurred on a Saturday, demonstrating the ability to access financing outside traditional global settlement windows – in real-time.

Industry Collaboration Beyond Individual Trades

This transaction represents a foundational activation for the broader Canton Network Working Group, encompassing traditional financial institutions and digital asset market participants.
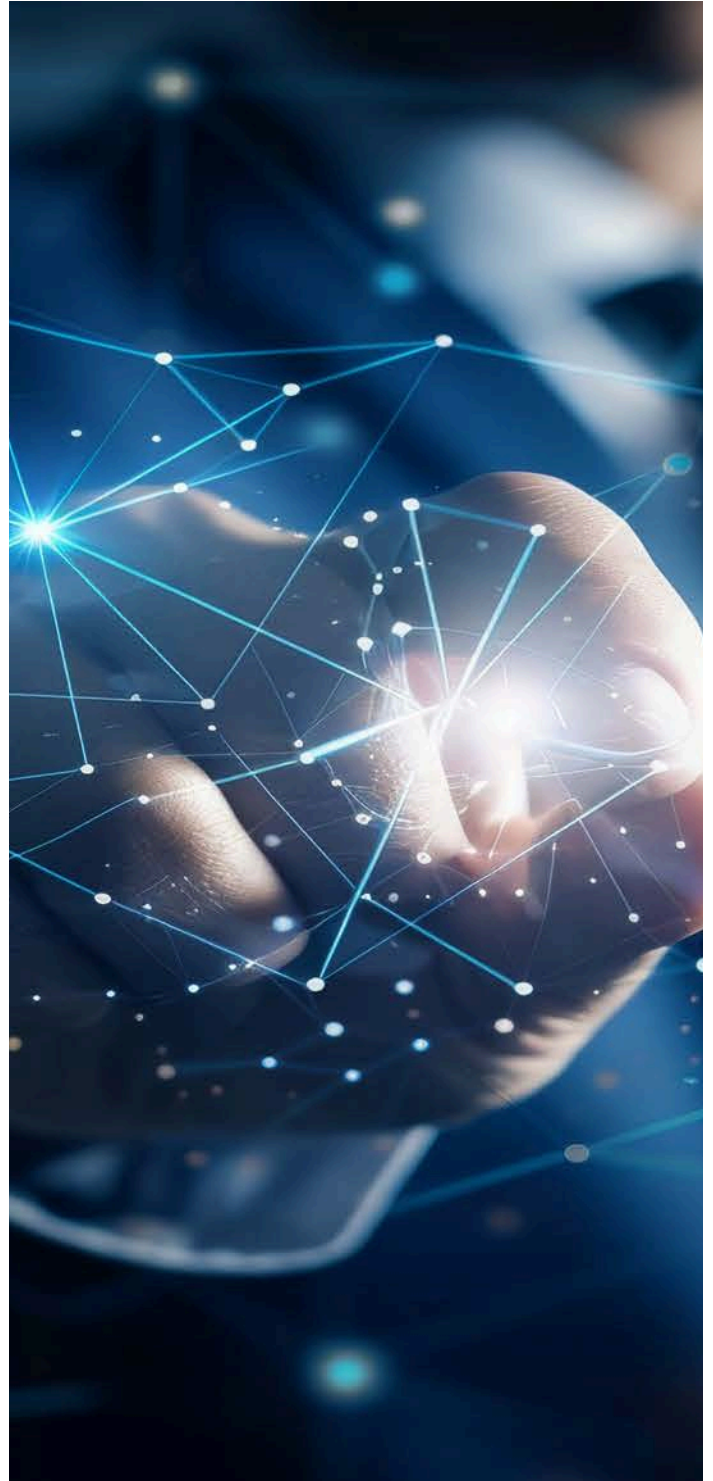
What does this mean for collateral and repos?

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 transaction is 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
USD54 million in operational savings in the USA alone[5] without sacrificing risk or income

Treasury efficiency
120 more hours in a week

Privacy
More than USD268 billion in stablecoins as collateral

New possibilities
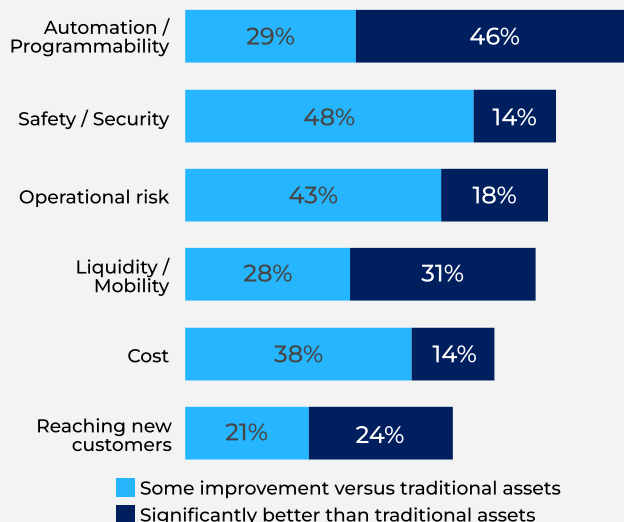Real time trading, margining and USD243 trillion6 in new collateral

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 tokenisation of collateral compare against traditional processes?

	Some improvement versus traditional assets	Significantly better than traditional assets
Automation / Programmability	29%	46%
Safety / Security	48%	14%
Operational risk	43%	18%
Liquidity / Mobility	28%	31%
Cost	38%	14%
Reaching new customers	21%	24%

- Some improvement versus traditional assets
- Significantly better than traditional assets

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?

Operational efficiency

USD54 million in operational savings in the USA alone[7] 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"**
>
> Spencer Jaffe, Senior Manager – Business Development, Circle

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.

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.

Privacy

Unlocking more than USD268 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 **USD268 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

July's trade 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

DTCC
(as the depository and tokenization agent)

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 DTCC.

The prime broker

Retained visibility into its own client repo activity, consistent with legal agreements and current market practice.
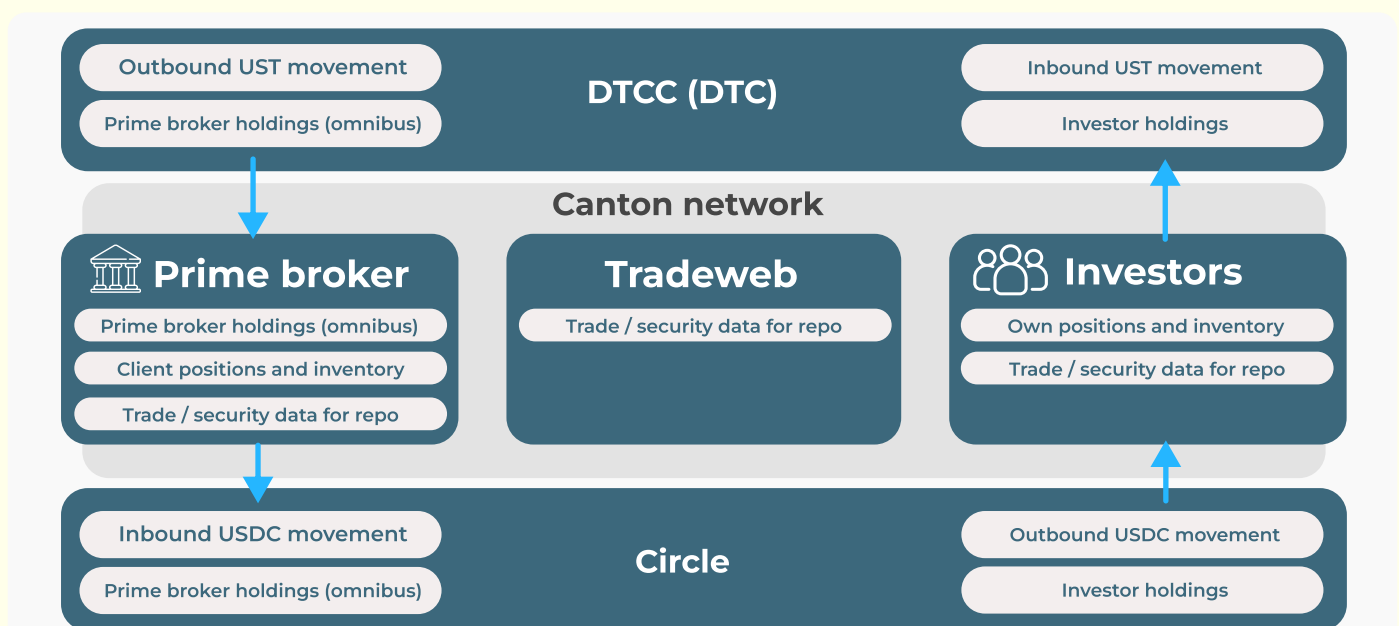
Tradeweb's financing app

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

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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.

DTCC (DTC)

Outbound UST movement

Prime broker holdings (omnibus)

Inbound UST movement

Investor holdings

Canton network

Prime broker

Prime broker holdings (omnibus)

Client positions and inventory

Trade / security data for repo

Tradeweb

Trade / security data for repo

Investors

Own positions and inventory

Trade / security data for repo

Circle

Inbound USDC movement

Prime broker holdings (omnibus)

Outbound USDC movement

Investor holdings

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

New possibilities

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 USD1 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

Who wins from tokenization? Everyone holding a treasury today

"Tokenization looks like it will have a marginal impact for the FCM and the prime broker. But the benefits for clients and for their collateral are huge"

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

Experience from July's trade 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.
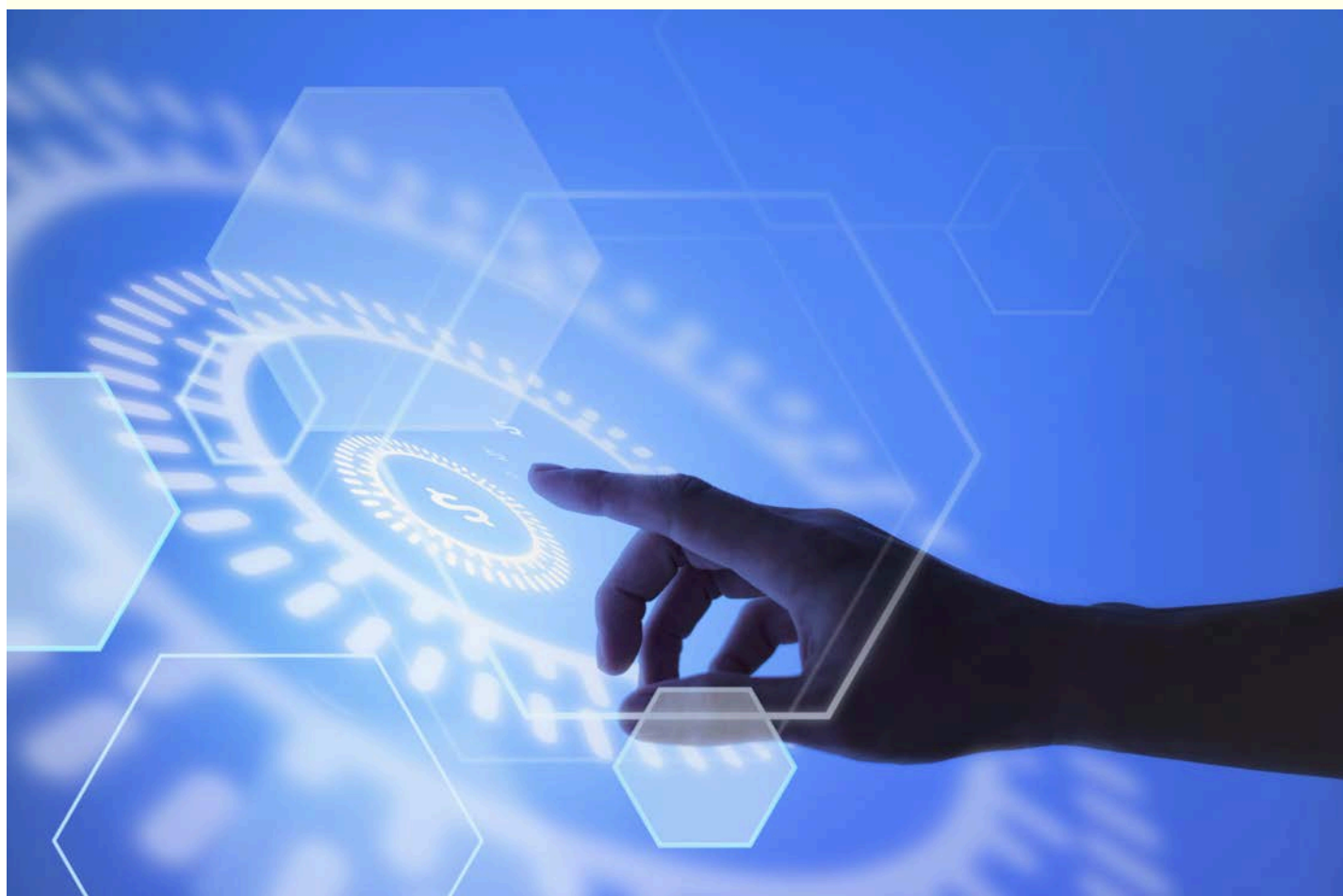
Making tokenized collateral a reality
Critical considerations

> **"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."**
>
> Ben Milne, Founder and CEO, Brale

With 8 regulated 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."**
>
> Spencer Jaffe, Senior Manager – Business Development, Circle

Handling the speed

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.

> **"Is everybody and every platform ready for real-time?"**
>
> Chris Zuehlke, Partner, DRW

Legal certainty

How to ensure that the tokenized ledger entries reflect control but not ownership – and that this can convert automatically into ownership in the event of a default? For those at the forefront of collateral tokenization efforts around the world, this certainty is the paramount consideration today – and the primary enabler to adoption.

Whilst this has been defined within several, domestic jurisdictions (i.e. where the asset and trade are one), ensuring this certainty in a cross-border context is still a future need.

> **"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

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.

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

Vineet Birman, Head of Treasury Quantitative Research, Citadel

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."

Tom Sulllivan, Managing Director, Société Générale

Flexibility matters

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.

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

Michael Winnike,Managing Director - Clearing & Securities Services (CSS) Strategy and Market Solutions, DTCC

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 any more, it's about an honest and open discussion of where the value is."

Elizabeth Kirby, Head of Market Structure, Tradeweb

Next steps?

July's live trade is 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 July's 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

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