Blue Water
Financial Technologies

OPPORTUNITIES IN TOKENIZATION 2025

Written By
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Blue Water Financial Technologies
a VOXTUR company

Tokenization in 2025 Executive Summary

The tokenization of real-world assets is the next leg in capital markets and financial services technology evolution. The practice of tokenization has been around since 2017 with attempts of writing alternative investment fund and real estate share ownership on blockchain ledgers. This begot the soon-after secondary trading of these fractional shares in an eye-opening framework that may actually enable the democratization of alternative assets and private market investing.

The industry found its footing throughout 2023 with the rise of the tokenized T-Bill and money markets. The short-term liquidity fund cohort shot from virtually zero to now over $4 billion over the past 24 months, finally showcasing an asset class whose utility is meaningful to crypto-native firms and traditional financial institutions alike.

With the industry standing at $50 billion in size against projections from incumbent capital market specialists ranging from $2-$16 trillion by the end of the decade, the hunt for the next wave of tokenized assets will likely find other yield-bearing products moving along the risk curve as blockchain protocols & foundations, Decentralized Autonomous Organizations (DAOs), digital asset managers, venture and growth equity firms, and traditional buy-side firms have begun allocating to real-world assets in favor of treasury and collateral diversification.

The greatest value drivers at this inflection point in tokenization – the true intersection between Traditional Finance (TradFi) and digital assets – are centered around the ability to make decentralized finance (DeFi) usable outside of purely the crypto ecosystem. That is to say that tokenized real-world assets may provide superior collateral to the thousands of micro-, small-, and mid-cap crypto assets that currently power the $120 billion DeFi ecosystem, and financial institutions and intermediaries are racing to place their issued assets at the forefront. The cycle will result in both *process drivers* and *product innovators* across government & agency securities, stocks, bonds, private equity, private credit, and in-demand alternative strategies. The North Star in this expedition is a *digital first* financial services & asset management experience for investors of all profiles.

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About Blue Water Financial Technologies Services, LLC.

Blue Water is strategically positioned at the forefront of tokenization in the $14 trillion mortgage sector. As a leader in mortgage asset services, Blue Water has built an extensive all-digital platform providing data and technology solutions for managing Mortgage Servicing Rights (MSR), whole loans, and second liens including daily, weekly, and monthly valuation and asset tracking, monthly remittance, and pricing, trade, transfer, and quality control service to the firm's 550+ originators as onboarded users. This ability to gather, ingest, and process quality granular data on a daily basis places Blue Water in a prime position to transition these assets to the blockchain across various applications.

What are Real-World Assets (RWAs)?

Real-World Assets (RWAs) are created by bringing legacy securities, loans, and financial instruments onto blockchain ledgers. This can be done in digitally-native format, in which the blockchain-based assets are brand new and solely accessible *onchain*, or as digital twins whereby the blockchain-based assets are pointers towards existing legacy assets. In general, compliant token wrappers are designed to act as all-encompassing investment wrappers spanning private and public assets alike, striving to do what ETFs did to mutual funds and individual equities on an even broader scale when applied to bonds, equities, existing ETFs, mutual funds, asset-backed securities and pools, pre-IPO shares, commodities, and more.

One example of a digitally-native asset would be a direct loan to a corporation that was originated, funded, and solely exists on a blockchain. Meanwhile, a Nasdaq-listed stock may have a digital *representation* of it living on a blockchain and tradable on a token marketplace. While there is much debate within the industry about the efficacy of digital twins versus digitally-native assets for the future of capital markets, the overarching idea is to continue onboarding quality assets to blockchain rails for the usage and composability within the broader digital asset ecosystems. To some, this may sound abstract and idealistic; to others, it's already a part of daily practice.

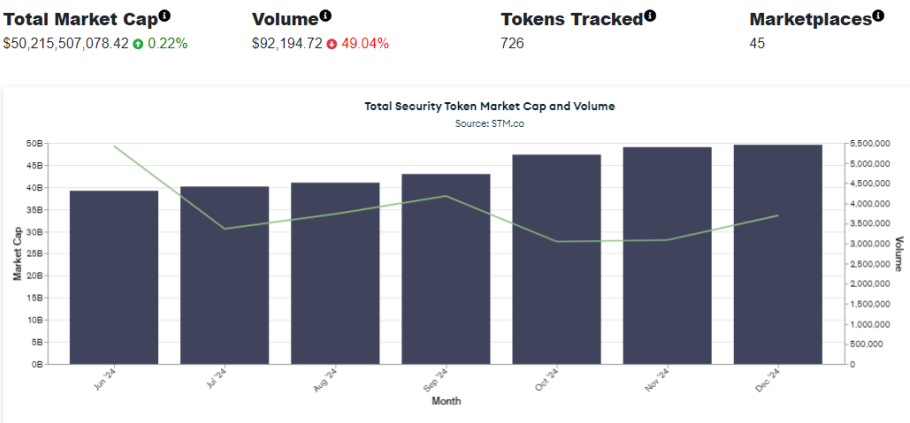
Real-world assets are created through the process of tokenization. Since the late 2010s, tokenization saw several nomenclatures including Security Tokens, Digital Asset Securities, Blockchain-Transferred Funds, and now Real-World Assets. The motivation for tokenizing assets typically surrounded the idea of newfound liquidity and secondary trading for alternative assets, global investor access for primary capital raises, alignment between project users and investors, and disintermediation of legacy financial services.

Some of these have taken hold, but more so the shining stars associated with blockchain-based systems include improved collateral management and mobility, interaction and utility within decentralized finance (DeFi) ecosystems, and portfolio management improvements to both legacy money managers and crypto-native platforms.

Landscape Snapshot

One of the challenges associated with real-world asset tokenization has been product traction and utility to investors and infrastructure players alike. The tokenization space came to light around 2017 when asset managers and capital market players took a foray into leveraging blockchain technology for the furtherance of their own marketable financial products. Some of the initial promises of the technology and the space in general included newfound investor access, back- and middle-office efficiencies through streamlined workflows, simpler compliance and onboarding, and liquidity avenues for non-traditional assets. Nonetheless, the demand side mostly wavered, leaving these issuers empty-handed and stuck in theory mode.

The demand challenge seemed to finally hit that inflection point over the past 24 months through the popularity and newfound utility of onchain money markets, US Treasuries, and liquidity products & funds. Surpassing **$4 billion** in collective assets with 6 products each over $100 million, two reaching the half billion-dollar mark, and one breaking $1 billion itself, **tokenized short-term liquidity funds** found product-market fit across institutional money managers, Web 3.0 investment firms, protocol treasuries, blockchain foundations, and other crypto-native organizations. Now that platforms like Securitize, Ondo Finance, Franklin Templeton's Benji Investments, and Hashnote are flush with digital asset capital relative to the broader tokenization ecosystem, adjacent users and partners may find success as the industry moves up the risk curve and branches into alternatives beyond the risk-free rate.



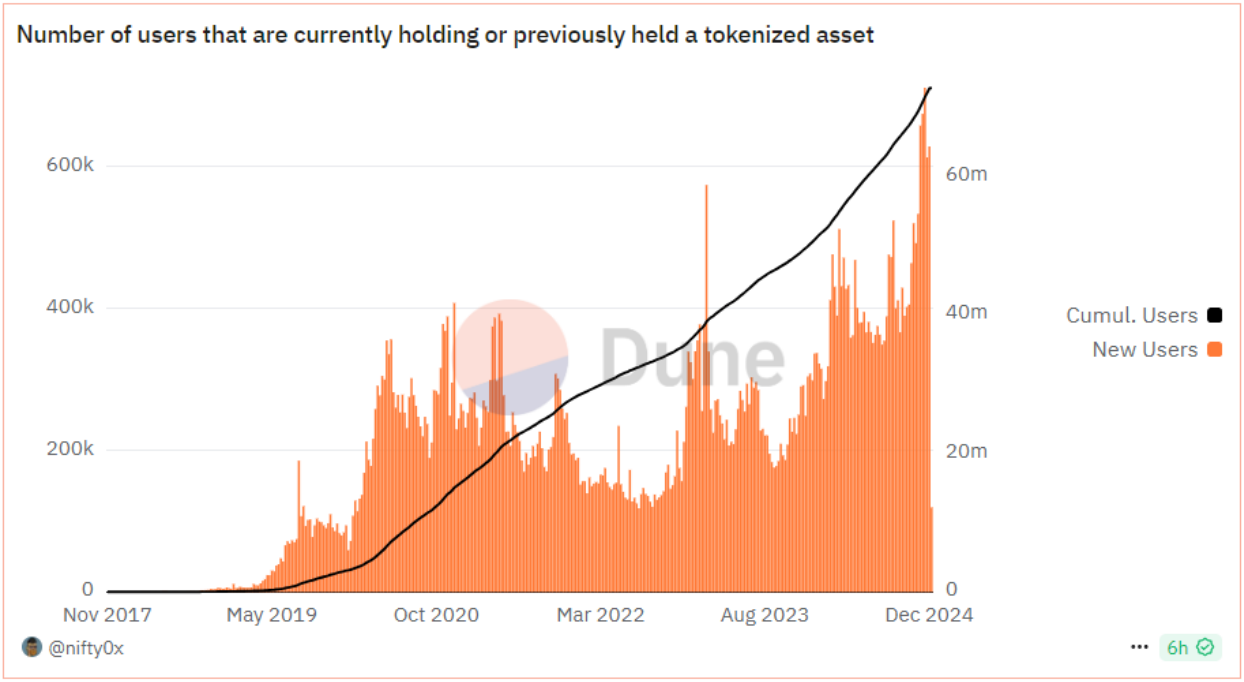
(Source: Security Token Market – STM.co)

Industry-leading data providers Security Token Market (STM.co), RWA.xyz, and Dune Analytics share dashboards aggregating tokenized asset types, sizes, volumes, inflows & outflows, listing venues, jurisdictions, and metadata. The diversity of investment products can be seen below spanning short-term liquidity funds, pre-IPO equities, revenue share agreements, municipal bonds, and traditional stocks. Excluding stablecoins, the collective tokenization market totals **$50 billion** including public blockchain and private blockchain-based issuances according to Security Token Market. This is a drop in the bucket for the $2 trillion (McKinsey & Co.), $5 trillion (Citi), $5 trillion (Bernstein), $10 trillion (Chainlink), and $16 trillion (Boston Consulting Group) tokenization market size estimates within the decade.

Trending RWAs

Token	Market Cap	Price	Change %	Instrument	Marketplace	Price Trend
Hashnote US Yield Coin USYC	$1,864,027,415	$1.07	↔ 0%	Pooled Investment Fund Interest	Hashnote	
BlackRock USD Institutional Digital Liquidity Fund BUIDL	$647,491,362	$1.00	↔ 0%	Pooled Investment Fund Interest	Securitize Markets	
Franklin OnChain U.S. Government Money Fund (FOBXX) BENJI	$437,623,818	$1.00	↔ 0%	Pooled Investment Fund Interest	Benji Investments	
Matrixdock Short-Term Treasury Bill Token STBT	$11,813,314	$1.00	↔ 0%	Pooled Investment Fund Interest	Matrixdock	
Superstate Short Duration US Government Securities Fund USTB	$182,187,796	$10.52	↑ 0.01%	Pooled Investment Fund Interest	Superstate	
Blockstream ASIC (BASIC) Note 1 BSIC1	$13,756,622	$312,650.50	↓ 1.36%	Asset Backed Securities	SideSwap	
tZERO TZROP	$85,121,172	$4.00	↑ 2.83%	Equity	tZERO	
WisdomTree Government Money Market Digital Fund WTGXX	$12,058,628	$1.00	↔ 0%	Pooled Investment Fund Interest	WisdomTree Prime	
Vidby AG VIDS	$132,458,138	$62.66	↓ 0.6%	Equity	Aktionariat	
City of Quincy - 10M USD QUINCY10M	$9,615,000	$1.00	↔ 0%	Debt	Onyx Digital Assets	

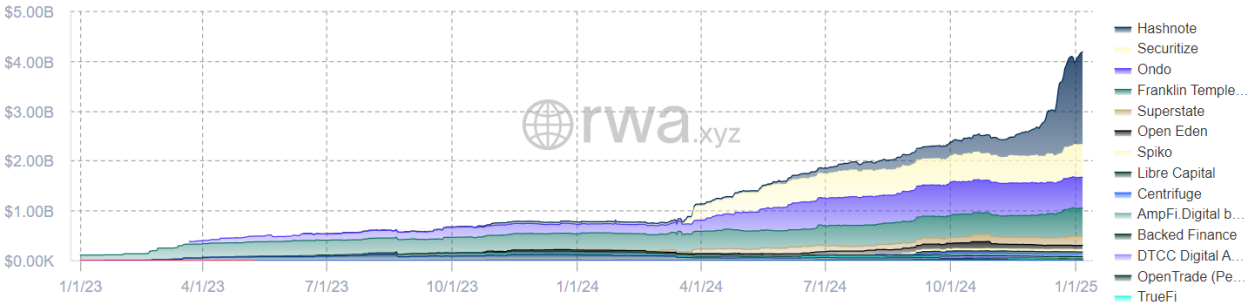
(Source: Security Token Market – STM.co)



(Source: Dune Analytics)

Short-Term Liquidity Funds

The key to successful digital asset capital markets is the existing and continued onboarding of capital through short-term liquidity funds. Legitimate capital markets players are unlikely to hold hundreds of millions of dollars in non-yield generating stablecoins; nor are they likely to face added risk of stablecoin staking and lending to generate the required yield while US Treasuries are paying annual risk-free interest in the 4.5% range. Therefore, short-term liquidity products backed by US Treasuries, US Treasury funds, money markets, repos & reverse repos, and other short-term high quality liquid assets act as the foundational tool for attracting and onboarding legacy fiat capital to the general digital asset ecosystem to the tune of **$4 billion** in assets per RWA.xyz.



(Source: RWA.xyz)

The most notable of these products over the last two years have been:

- Hashnote Short Duration Yield Coin (USYC)
- BlackRock's USD Institutional Digital Liquidity Fund (BUIDL)
- Ondo's Short-Term US Government Bond Fund (OUSG)
- Franklin Templeton's OnChain US Government Money Fund (FOBXX)
- OpenEden TBILL Vault (TBILL)

Product Name / Protocol	Ticker	Networks	Market Cap	Yield to Maturity
Hashnote Short Duration Yield Coin Hashnote	USYC		$1,865,959,499 ▲	3.19%
BlackRock USD Institutional Digital Liquidity Fund Securitize	BUIDL		$647,491,362 ▼	4.50%
Franklin OnChain U.S. Government Money Fund Franklin Templeton Benji Investments	FOBXX		$554,792,400 ▼	4.55%
Ondo U.S. Dollar Yield Ondo	USDY		$450,897,911 ▲	4.35%
Superstate Short Duration US Government Secu... Superstate	USTB		$190,112,069 ▲	4.49%
Ondo Short-Term US Government Bond Fund Ondo	OUSG		$167,493,420 ▼	4.05%
OpenEden TBILL Vault Open Eden	TBILL		$83,747,678 ▲	3.98%
Spiko US T-Bills Money Market Fund Spiko	USTBL		$48,503,706 ▲	4.37%
Libre SAF VCC - USD I Money Market Libre Capital	—		$41,418,042	—
Anemoy Liquid Treasury Fund 1 Centrifuge	LTF		$36,348,612	4.00%
Guggenheim Treasury Services DCP AmpFi.Digital by Zeconomy	GDCP	Ethereum	$20,233,879	—

(Source: RWA.xyz)

What's now enabling greater utility and acceptance around these tokenized products is digital asset infrastructure providers like prime brokers, market makers, and custodians facilitating margin posting, collateral management, and swap pairs with these yield-generating assets. Simply put, they act as superior trading pair and settlement mechanisms to non-yield bearing stablecoins.

One example of direct utility here is prime broker FalconX accepting BlackRock's USD Institutional Digital Liquidty Fund (BUIDL) as collateral for trading and swap positions from clients. That's an immediate value-add to FalconX, its trading clients, and Securitize as the

tokenized fund issuance platform alike. Eligible FalconX clients will likely elect to swap stablecoin and cash holdings into BUIDL for the onchain yield in greater size which will drive additional capital and participants from the broader digital asset realm towards the Securitize ecosystem, as these participants will need to be approved with Securitize compliance and properly activated as users. Shortly after, FalconX began supporting Superstate's Short Duration US Government Securities Fund (USTB) for similar collateral functionality for Qualified Purchaser (QP) clients, albeit with its own onboarding process. Similar examples can be found as follows:

- Crypto derivatives exchange Deribit adding Hashnote's US Yield Coin (USYC) to its cross-margin collateral inclusion list
- Hidden Road recognizing BUIDL as yield-bearing collateral with exchange partners Chicago Mercantile Exchange (CME), B2C2, and Laser Digital
- Injective integrating Mountain Protocol's USDM stablecoin as collateral for derivatives trading
- Franklin Templeton's OnChain US Government Money Fund tokens (BENJI) acting as the first yield-bearing digital asset collateral on an OTC derivatives swap between institutional dealers Nonco and SwapGlobal

A cohort of yield-bearing *permissionless* fiat stablecoins has also risen and fortified during 2024, led by Mountain Protocol's Mountain USD (USDM) and Paxos' Lift Dollar (USDL) under the Abu Dhabi Global Market (ADGM) regulatory framework. Coinbase also announced 4.7% in USD Coin (USDC) rewards post-United States 2024 Presidential Election. Sans Coinbase's USDC initiative, the current approach is offering these US Dollar-backed stablecoins to non-US individuals, purchasing US Treasuries and reverse repos with user deposits, and distributing daily yield onchain in the form of additional stablecoin units. The noticeable difference here is the structuring as a non-US stablecoin product which *geofences* US-based users from accessing any product materials, versus a US-registered 1940 Act Fund or Regulation D issuance which Frankin Templeton, WisdomTree, and BlackRock are following.

As detailed in CoinDesk in April 2024, onboarding capital to tokenization platforms through short-term liquidity funds is paramount to tokenized alternative assets seeing success. Web 3.0 organizations and asset managers will likely begin shifting up the risk curve and building out diversified books after finding some level of comfort with tokenized liquidity funds. One trend that's been yearning for an unlock in the industry is private investment funds. Singular commercial real estate assets, residential real estate assets, startup company equities, and niche small-and-medium enterprise financing have proven to be

tough sells despite many headlines; they concentrate risk, are not very differentiated, and generally have less velocity than investment funds geared towards the same asset class.

Contrast that with the $14 trillion residential mortgage space and associated Mortgage Servicing Rights (MSR), for example, which itself has clocked an estimated $1 trillion in annual secondary trading volume 4 years running. The fact is token-focused investors are typically seeking two-sided liquidity, an active market, and underlying asset velocity. Bringing an existing two-sided market to the tokenization space may alleviate current industry pain points – both for the mortgage industry and tokenization industry – offering something attractive to the $3+ billion in liquidity fund capital that resides onchain. As such, Blue Water sits as that bridge between digital asset capital markets and the ever-active mortgage industry.

Why Yield Products?

The digital asset space in general is still very much in a "prove itself" phase to traditional finance incumbents. Successful mainstream cases of the technology have largely been seen through stablecoins, payments, and the inclusion of cryptocurrencies in portfolios as a macroeconomic investment (see: Morgan Stanley, BlackRock, Fidelity). The tokenization of real-world assets is supposed to be the ultimate bridge between digital assts and legacy capital markets (TradFi). In order to get there, the industry will likely mimic the adoption steps of existing portfolio construction, albeit in a digitally-native fashion. What this might look like is a suite of quality onchain yield-generating assets like government sponsored enterprise (GSE) securities and federal agency securities. Much like the industry prefers the risk-free interest stemming from US Treasury-backed tokens, allocators may seek similar levels of protection associated with products at higher interest rates like mortgage assets, municipal bonds, and sovereign debt.

Additionally, there is something to be said about seeing and interacting with onchain capital markets in real-time. Yield-bearing assets may distribute interest on a daily, weekly, monthly, or quarterly basis depending on the investment vehicle's structure, underlying asset, and liquidity management mechanisms. For example, a mortgage asset-backed token may have monthly distributions associated with the underlying mortgage cash flows. These distributions may be paid in stablecoin such as USD Coin (USDC), Mountain Protocol (USDM), or PayPal USD (PYUSD). Bonus points for paying out via other yield-bearing liquidity tokens like BUIDL (to institutions), USDY (to non-US investors), or BENJI (to whitelisted US retail investors), which can be held, sold, or rehypothecated into other financial applications seamlessly. These transactions constantly prove the power of digital assets in real-time,

enabling buyers, sellers, researchers, issuers, and third-parties to "follow the money" in plain sight.

Understanding this is crucial as it paints the picture that a tokenized product itself is not the only factor in the equation, but rather just one factor within an ecosystem. To put it plainly, yield-bearing assets that consistently facilitate subscriptions, redemptions, distribution payments, valuation updates, and portfolio actions put ***onchain finance*** on display. This encourages the ecosystem to gravitate and strengthen around them.

This is something that pre-IPO shares, private equities, new development real estate projects, and other commonly-touted tokenization cases don't usually play a role in. For example, an investor may purchase tokens representing Series B equity in a healthcare startup. As mentioned earlier, token-focused investors typically want to see an active two-side market, meaning active secondary trading and changes of hands. Startup equity will likely just sit there until the next capital raise, eventual exit, or Alternative Trading System (ATS) listing. These are unlikely to showcase the power of existing digital asset cases like instantaneous and cost-effective payments via stablecoins or usage within DeFi. As a result, less spotlighting is done on these as it's less *disruptive*.

Each onchain distribution or interest payment, however, is another check in the box for the efficacy of tokenization and digital asset implementation. BlackRock's BUIDL fund made headlines for surpassing $7 million in onchain interest payments in August 2024 and $15 million in December 2024. Why? Because it's happening fully onchain; it goes towards the narrative of a digitally-native ecosystem that issuers, investors, and counterparties never really need to leave.

Some short-term liquidity funds go above and beyond in this regard, enabling the fund to accrue and make daily distributions to investors in the form of stablecoin or in additional fund units, as is the case with Franklin Templeton's FOBXX rewarding holders with BENJI token and Ondo's OUSG enabling the optionality for investor distributions via rOUSG token. These constant distributions and payments are healthier and more productive for the onchain ecosystem than illiquid products that are simply held onchain.

While certainly not a knock on the tokenization of long-term illiquid assets or classes like venture and startup equities, it is indeed a possible reason those classes have struggled to solidify a footprint within the space, and fortifies the likelihood that yield products outside of short-term liquidity funds will be the next beneficiaries of digital asset market expansion.

Lastly and as a ***counter*** to this notion, **Exodus Movement**, developer and operator of the Exodus Wallet with 1,900 Bitcoin on its balance sheet, successfully listed on the New York Stock Exchange (NYSE) American roughly 3 years after its tokenized Regulation A+ offering

in which it raised $75 million from 6,800 investors including its retail user base, accredited investors, and crypto firms. The Exodus (EXOD) token was trading on both tZERO ATS and Securitize Markets prior to the December 2024 uplist to NYSE American.

Private Credit

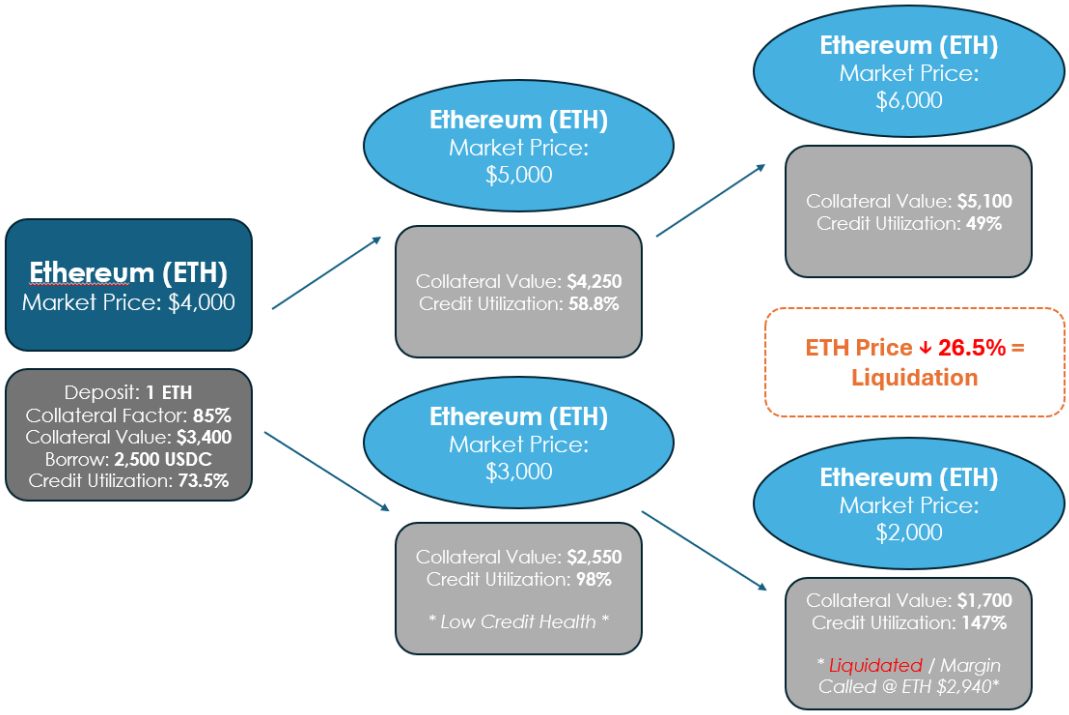
Protocol	Network	Currency	Name	Status	APY	Principal Outstanding
Maple	Ethereum	USDC	Syrup USDC	OPEN	10.06%	$74,649,479
Goldfinch	Ethereum	USDC	Goldfinch Senior Pool	OPEN	9.92%	$60,970,681
Maple	Ethereum	USDC	High Yield Secured Lending Map...	OPEN	9.14%	$48,980,777
Maple	Ethereum	USDC	Maple Direct USDC1	OPEN	10.05%	$36,733,831
Centrifuge	Ethereum	DAI	New Silver 2	OPEN	8.46%	$33,208,090
Maple	Ethereum	USDT	Syrup USDT	OPEN	7.66%	$32,115,787
Maple	Ethereum	USDC	AQRU Maple Pool USDC1	FULL	15.09%	$21,814,723
Credix	Solana	USDC	credix-marketplace	OPEN	18.65%	$16,556,403
Centrifuge	Ethereum	DAI	REIF Pool	FULL	9.53%	$8,910,355
Centrifuge	Ethereum	DAI	Branch Series 3	OPEN	13.10%	$7,446,288
Centrifuge	Ethereum	DAI	Cauris Global Fintech 1	FULL	11.33%	$7,181,133
Maple	Ethereum	USDC	Opportunistic High Yield Maple P...	OPEN	12.50%	$5,163,350
Centrifuge	Ethereum	DAI	ALT 1.0	OPEN	13.83%	$5,154,598
Centrifuge	Ethereum	DAI	Bling Series 1	FULL	7.80%	$4,484,422
Centrifuge	Ethereum	DAI	Fortunafi 1	OPEN	11.16%	$4,399,183
Maple	Ethereum	wETH	High Yield Corporate Loan Maple...	OPEN	7.41%	$1,865,159

(Source: RWA.xyz)

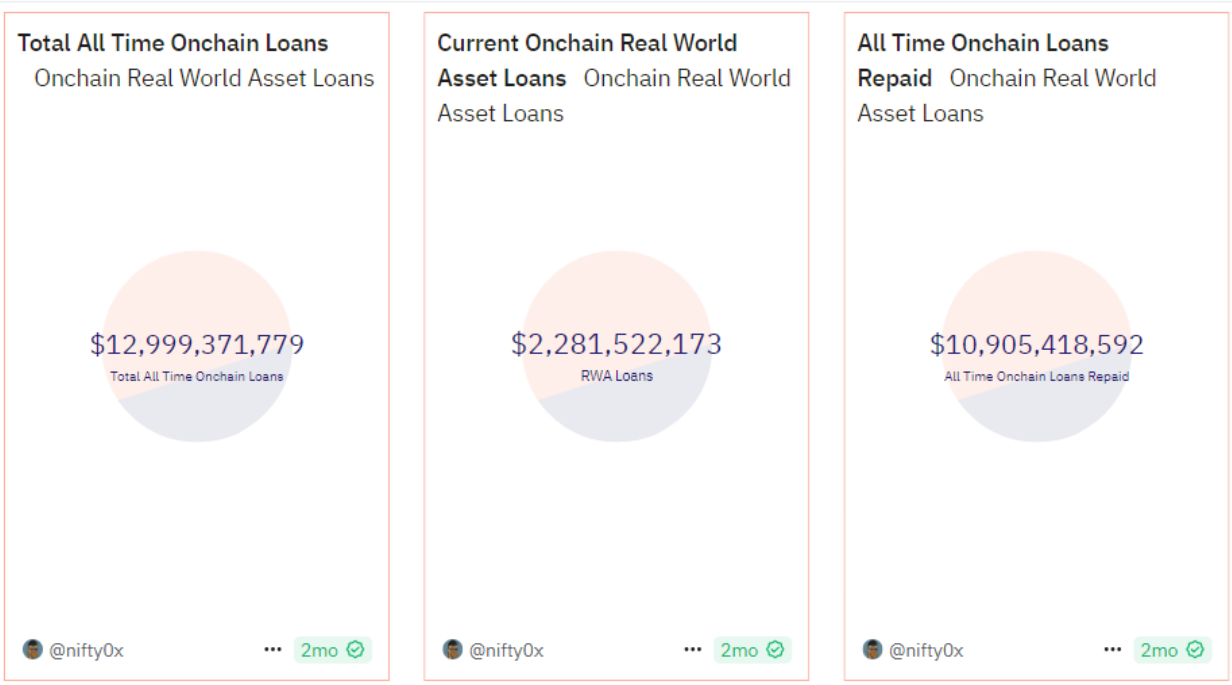
Regarding debt products, private credit is a sleeping giant when it comes to tokenization. Most of the real-world assets tagged as private credit are direct loans to institutional crypto allocators, traders, and corporations. Only some loans or offerings are asset-backed or derived from an off-chain asset class. This presents tremendous opportunity for savvy players in the credit space.

One of the key pieces of real-world asset tokenization is bringing asset class diversity to the digital asset space. Direct loans to crypto investment firms are appealing to high net worth individuals (HNWI) and approved accredited types as the yields typically range from 9% upwards of 20%, fully onchain. Nonetheless, the underlying performance backs up to the crypto market. While loan management is more transparent and real-time than old school analog lending – which is beneficial from a risk management standpoint – there is very limited diversification in the portfolio. Crypto volatility, spikes, flash crashes, dips, regulation, etc. can and will affect lending positions just as they will nominal holdings. Should Ethereum (ETH) experience a 40% correction over the course of a week, not only will crypto investors' ETH holdings fall 40% in unhedged value, but borrowers will also feel that

stress as a result of their overcollateralized positions required by the vast majority of onchain lending services. Lenders must also actively monitor their positions in these cases as the source of capital as this will likely be felt across the board in crypto lending, not limited to just one book.



Taking the onchain lending framework and applying it to a non-crypto related asset class allows digitally-native money managers to triangulate their target yield returns with diversification. For example, a money manager may enjoy higher yields associated with direct lending to institutional crypto trading desks while maintaining 25% of its capital for uncorrelated asset lending such as mortgage assets, trade finance, treasuries, receivables, or investment grade corporate debt. Dune Analytics shows the total value of lifetime onchain loans to be $13 billion under the current crypto-collateralized model discussed.



(Source: Dune Analytics – RWA)

Protocols, DAOs, and RWA Allocations

Blockchain protocols themselves have begun diversifying their own treasury holdings from the protocols' native utility tokens to tokenized US Treasury funds and yield-generating strategies. Protocols, blockchain foundations, DAOs, and Web 3.0 native firms now view themselves as stewards of significant capital – albeit in a decentralized manner – and thus see risk management and portfolio construction as something more crucial than ever. No longer will a Layer 2 blockchain allow its own foundation's treasury holdings to fluctuate entirely with the price of its associated utility token when it can rotate a portion into risk-free yield-generating products onchain. If the protocol is analogous to a wealth manager and its treasury maps to "client funds," imagine how large of a shift the treasury's allocations are due for. Again, this is where protocols seeking to diversify treasury holdings will likely find themselves looking towards high-quality yield-generating assets like government sponsored enterprise or agency securities with modest risk profiles at more favorable returns than vanilla treasuries. Examples of this shift in action include:

- Ethereum Layer 2 Arbitrum allocating $25 million (35 million ARB) into BlackRock's BUIDL, Ondo's USDY, Superstate's USTB, Mountain's USDM, OpenEden's TBILL, and Backed's bIB01 with 99.44% of ARB token holders voting in favor of the allocations in July 2024
- Sky (formerly MakerDAO) launched Spark Tokenization Grand Prix, a request for proposal (RFP) process, to onboard up to $1 billion in yield-bearing real-world assets

- Ethena accepting applications for investment into yield-bearing or reward-accruing assets from its $45 million Reserve fund
- Avalanche Vista opening a $50 million fund for Avalanche-based real-world assets across the liquidity spectrum as an incentive and diversification program

The Emergence of Compliant DeFi

Another key utility piece to yield-bearing assets is the potential portability to the $120 billion decentralized finance (DeFi) ecosystem. Illiquid buy-and-hold growth assets have their place in long-term portfolio goals, but without robust valuation and performance, they lack utility beyond a target return number. Contrast that with an asset that's constantly generating cash flows distributed to the end investor and rebasing or revaluing itself. The latter profile is more promising to DeFi on professional and institutional levels.

The DeFi ecosystem encompasses peer-to-peer financial applications such as asset swapping & trading, borrowing & lending, and staking, delegating, & liquidity providing. These segments do very similarly to what existing traditional financial firms do except with less intermediaries, lower barriers to entry, and much greater participation rates for individuals. As a simple example, banks and non-bank lenders will underwrite deals, review borrower standing and credit profiles, and ultimately offer credit to borrowers at an interest rate commensurate with market interest rates plus a risk premium. They are the final say, effectively, when it comes to that particular borrower obtaining the desired line of credit. The ones participating in this deal include the borrower on one side and the bank, servicers, potential syndication partners, and buyers of loan products on the other side. In other words, there are multiple hands in the pocket – not just a one-on-one interaction.

DeFi enables individuals to act as that bank lender by pledging crypto assets into a liquidity pool that other borrowers wish to draw from. Much like a bank, the lender of the crypto assets shares in rewards via interest payments. The interest rate is typically floating rate set by crypto market dynamics and activity. The raw speed at which loans can be issued, repaid, and rehypothecated is remarkable when compared to traditional lending; even more impressive is the ability for individual users to directly participate and contribute to said lending ecosystem.

Now having a basic example of a DeFi application, it's important to understand the weight of **composability** within the ecosystem. Composability is the ability to make use of one asset or protocol within other protocols and applications. Staking a cryptocurrency into Liquidity Pool A, receiving a yield-generating token representing future rewards from trades facilitated

by Liquidity Pool A, and repledging that token into Liquidity Pool B as a trading pair asset shows the composable nature of the token. It draws value from one application and enables utility in others. To be effective in broad-based DeFi, assets and features *should be composable*. Otherwise, the vast majority of users will view something as being on its own island, siloed out from the value-add region.

Composability in DeFi is one of the holy grails for real-world assets, alongside fluid secondary trading and effective disintermediation within capital markets plumbing. Reverting to the earlier examples of pre-IPO equities and long-term illiquid assets: *how will these be used to bolster the DeFi space?* It's hard to say without more frequent valuation and reporting. Yield-bearing real-world assets, on the other hand, have an immediate value proposition to the DeFi space: *non-crypto-correlated stable value to pledge in applications and rehypothecate yields against*.

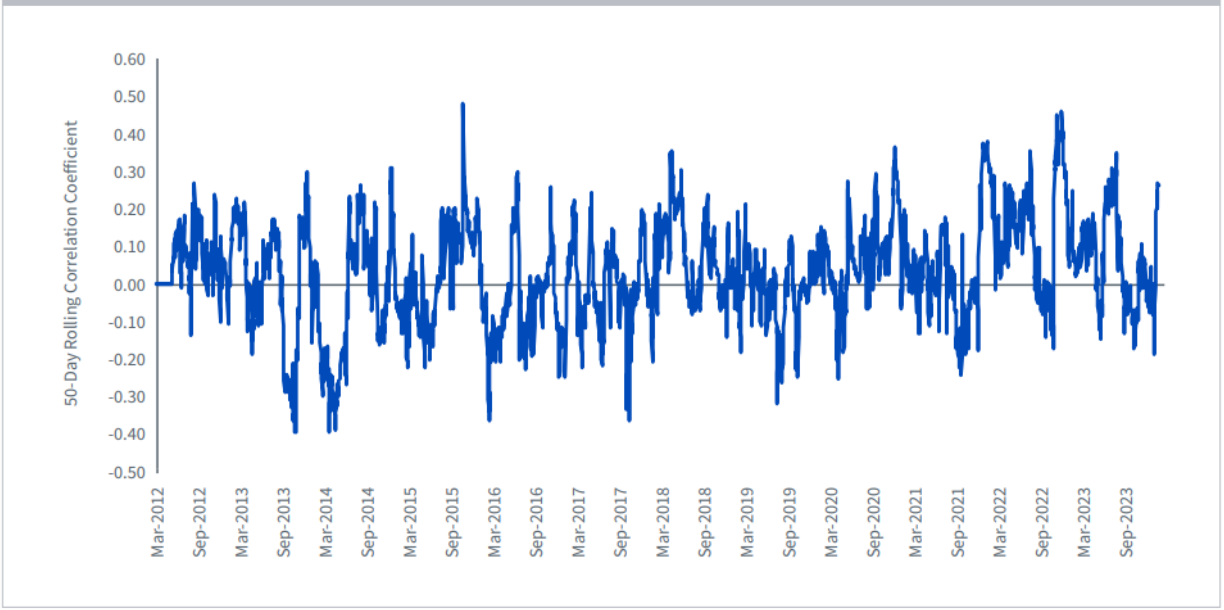
Most DeFi loans rely on overcollateralized positions with Loan-to-Value and Collateral Ratio triggers that manage margin calls, liquidation, and credit health. This inherently is limiting from a portfolio management and risk management perspective as it's **1)** not an efficient use of capital and **2)** too heavily correlated within cryptocurrency markets itself.

A correlation matrix of well-known large-cap and mid-cap crypto assets shows moderate to strong positive correlation within the asset class itself. Research from WisdomTree finds the rolling 50-day correlation between Bitcoin and the S&P 500 index to never breach an absolute value of 0.5 since 2012, suggesting weak to moderate correlation between the premier cryptocurrency and one of the premier equities indices. Alternative investments like private credit, asset-backed securities, and private equity are likely to see an even weaker correlation to BTC and cryptocurrency, as gold shows with its sub-0.2 average. Enabling the velocity of these alternative assets will therefore unlock some interesting opportunities for institutional DeFi that are not completely reliant on crypto market performance.

	BTC	ETH	BNB	ADA	XRP	LTC	XMR	DOGE	SOL	DOT	AVAX
BTC	1										
ETH	0.89	1									
BNB	0.79	0.81	1								
ADA	0.77	0.81	0.78	1							
XRP	0.59	0.63	0.59	0.71	1						
LTC	0.75	0.78	0.75	0.75	0.58	1					
XMR	0.7	0.68	0.64	0.61	0.46	0.6	1				
DOGE	0.65	0.69	0.68	0.65	0.52	0.64	0.53	1			
SOL	0.76	0.79	0.75	0.79	0.63	0.7	0.58	0.63	1		
DOT	0.78	0.81	0.8	0.85	0.64	0.77	0.63	0.66	0.77	1	
AVAX	0.79	0.84	0.82	0.81	0.64	0.74	0.63	0.68	0.82	0.84	1
GOLD	0.21	0.2	0.21	0.18	0.09	0.19	0.19	0.11	0.16	0.15	0.17
SP500	**0.53**	0.53	0.47	0.51	0.38	0.46	0.41	0.38	0.42	0.51	0.48

(Source: Blockchain Center – Correlation Matrix)

Figure 2: Correlation Analysis: Bitcoin's Price Movements vs. S&P 500 Index



Source: Bloomberg. Data from 12/30/11–1/23/24. Each point represents the correlation over a period of the 50 prior days of bitcoin prices changes and S&P 500 Index level changes. Past performance is not indicative of future results. Bitcoin is highly speculative and involves a high degree of risk, including the potential for loss of the entire investment. An investment in bitcoin involves significant risks (including the potential for quick, large losses) and may not be suitable for all investors.

(Source: WisdomTree Market Insights – March 2024)

Achieving Real-World Assets in DeFi

Serious institutions and corporations will be hamstrung and DeFi will remain in its own bubble for crypto-natives until quality real-world assets are introduced into the mix. Achieving this milestone requires numerous functioning pieces including:

- Liquidity management of the off-chain asset and investment vehicle
- Compliance via onchain attestations or wallet-based KYC/AML/Accreditation
- Liquidity management within the DeFi application
- Mechanism to balance the real-time nature of digital assets and inherent off-chain limitations

Investment offering structure will heavily influence the route a real-world asset issuer may take. For example, issuers may elect to run equity-based offerings through SEC and FINRA-registered broker-dealers to provide high levels of compliance at the onboarding and capital raise stages. Others may elect to structure an offering as a debt product, only accepting individual loans from accredited investors and upwards. There is indeed infrastructure built out to facilitate this as described earlier.

The challenge starts beyond that primary issuance: *where does the token end up?* becomes the next question to ask and answer. Ondo Finance issued a thought piece depicting the *Know-Your-Ecosystem (KYE)* paradigm and the significance of accounting for the sheer speed and field coverage associated with digital assets. Composable digital assets can move from one platform or protocol to numerous others within just a handful of transactions in less than 10 minutes. Triangulating where they'll end up within the ecosystem becomes even more important for compliance-based assets like tokenized real-world assets.

Onchain compliance & user identification is one of the more challenging needs here. Many users in the DeFi space see little reason to complete a KYC/AML process since most cryptocurrencies are not deemed securities across global jurisdictions. Nonetheless, forward-thinking platforms like **IX Swap**, an Automated Market Maker (AMM) for real-world assets & securities, and **Swarm Markets**, a tokenized stocks and commodities specialist operating a decentralized OTC market, enable DeFi-native solutions. IX Swap is regulated under the Monetary Authority of Singapore (MAS) and the Securities Commission of The Bahamas; Swarm Markets is regulated under Germany's Federal Financial Supervisory Authority (BaFin) and offers API-connectivity according to the Markets in Crypto Assets (MiCA) compliance guidelines in the European Union (EU).

Most of the Know-Your-Customer (KYC), Anti-Money Laundering (AML), and Accreditation checks are maintained by whitelisting wallet addresses that have completed the proper compliance onboarding. Only approved whitelisted wallets will be able to interact with and

hold tokens designated as securities or otherwise permissioned real-world assets. Similarly, investors can only send and swap tokens with other approved wallets.

Standardizing this approach becomes a challenge as more and more tokenization platforms and marketplaces surface. **Tokeny** has developed the ONCHAINID standard enabling a universal passport that complies with and checks against various global regulators based on user wallet locations and original personal onboarding details. Widespread adoption from other platforms and trading venues is the goal as this is an open-standard blockchain-based identity ecosystem.

Compliance work is also being tried at the blockchain level as seen through **Coinbase Verifications**, an identity verification service operating on the Ethereum Layer 2 Base blockchain. Coinbase Verifications is built on the Ethereum Attestation Service (EAS), which is a base layer where users can confirm information and sign transactions requested by compliance standards. Interactions will feel crypto-native to users, replicating the same transaction signing process used when interacting with decentralized apps (dApps).

Borrowing, Lending, and Collateralization

Fortunately, there are already cases being made to connect DeFi applications with asset-backed tokens and vice versa. The short list at Year-End 2024 consists of:

- Securitize and Elixir enabling BUIDL in Curve Finance liquidity pools
- Morpho Labs bolstering DeFi vaults with real-world assets
- IX Swap and Clearpool forming a decentralized trading & decentralized lending highway for real-world assets
- ProvLabs partnering with NAV Lend for Provenance Blockchain-based fund collateralization
- Ondo Finance testing Flux Finance for OUSG-based lending & borrowing

Securitize and blockchain network connector **Elixir** unveiled the intention to offer liquid staking tokens (LST) for real-world assets issued through Securitize's tokenization protocol. These LSTs would then be usable within DeFi applications by way of the deUSD ("Decentralized USD") stablecoin that gets minted upon staking the real-world asset.

Take BlackRock's BUIDL fund as an example. Qualified Purchasers owning BUIDL tokens can stake these tokens – locking them up into an ERC-4626 vault, the same vault standard that Ethereum DeFi uses – and mint deUSD tokens representing the value of BUIDL tokens staked or some percentage of that total value based on a determined *collateral factor*. The BUIDL tokens continue to accrue interest while the owner is free to make use of the recently minted

stablecoins for other activities in DeFi like liquidity providing or asset purchases, all without having to sell the BUIDL interests or forgo the yield distributions.

The first of these DeFi applications is Curve Finance's decentralized exchange for stablecoins with $2 billion in Total Value Locked (TVL). Already accounting for 60%+ of deUSD's $100 million in liquidity, Curve will enable BUIDL owners to mint deUSD, trade or lend their deUSD stablecoins, borrow against their deUSD stablecoins, and provide liquidity to deUSD trading pairs. The end goal is a solution that empowers BUIDL owners to generate excess yields via rehypothecating value within Curve's stablecoin-based ecosystem – a total return solution that now provides **1)** BUIDL treasury & repo yields and **2)** deUSD DeFi yields simultaneously. Ultimately, this makes BUIDL more capital efficient for savvy investors as they may not need to sell their holdings, triggering capital gains & taxable events, and can explore DeFi applications with a stable-priced, yield-generating collateral asset rather than a typical cryptocurrency.

Morpho Labs first launched its tokenized Treasury vault in partnership with **Centrifuge** during Summer 2024 under the mission of providing instant liquidity without needing to redeem the underlying T-bill. Curated by Steakhouse Financial and Re7, the RWA vault supports the Anemoy Liquid Treasury Fund (LTF), Midas Short Term U.S. Treasuries (mTBILL), and Hashnote's U.S. Yield Coin (USYC) as yield-bearing collateral. Users must self-attest through Coinbase Verifications as part of the KYC process for accessing the vault on Coinbase's Ethereum Layer 2 blockchain, Base. The vault has accumulated just under $1 million in stablecoin supply as it proves out the concept of Treasury-backed lending and borrowing.

Pioneer in the tokenized asset DeFi space, **IX Swap**, partnered with lending platform **Clearpool** to forge a highway between user onboarding and utility surrounding real-world assets. Regulated within Singapore and the Bahamas, IX Swap handles user onboarding, compliance, and decentralized trading via its purpose-built DEX for tokenized assets. Investors may gain access to varying investment offerings including custom built portfolios through the DEX. From there, investors are now able to collateralize those real-world asset holdings on Clearpool, a lending platform responsible for over $600 million in crypto loans, and access stablecoin as the borrowed asset.

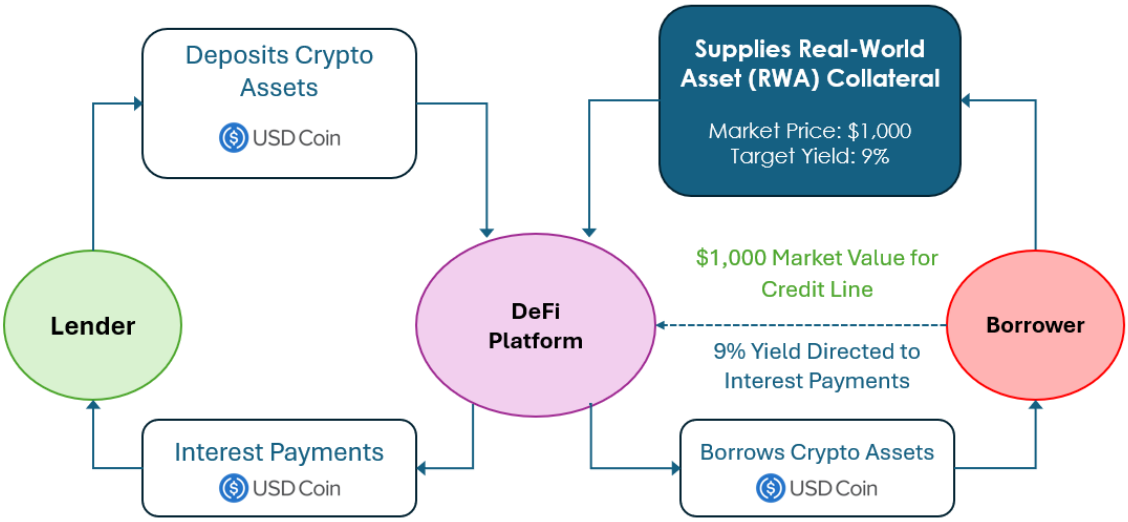
There is also a lending case geared specifically towards private investment funds. **ProvLabs**, a development & consulting company catering to the Provenance Blockchain ecosystem, a Layer 1 blockchain that currently accounts for $13 billion in onchain assets, partnered with **NAV Lend** and **Figure Markets** to provide Net Asset Value (NAV) fund loans to Limited Partners (LPs) in tokenized private investment funds. NAV Lend works to connect interested peer-to-peer borrowers and lenders to provide liquidity and utility to investors in typically

illiquid long-term funds. This is designed to heighten the attraction and benefits of participating in tokenized funds versus their analog counterparties, as market participants can more efficiently access capital even prior to any secondary trading listing on Figure ATS, an Alternative Trading System.

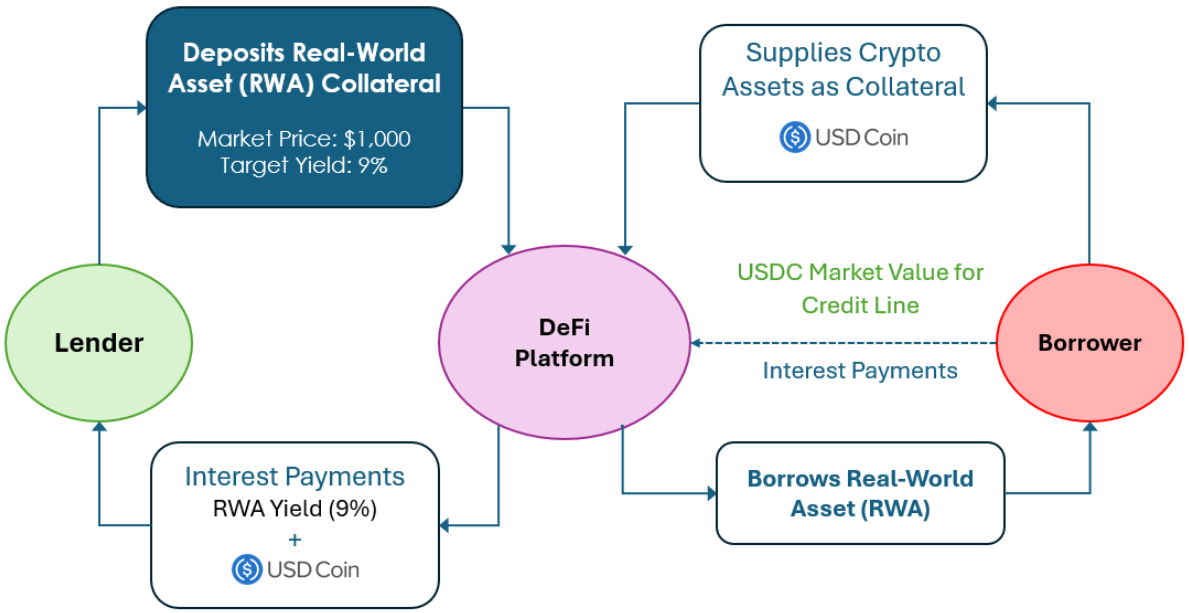
NAV Lend may also incentivize stablecoin holders in the Provenance Blockchain ecosystem to put those holdings to work in yield-generating lending activities, much like users in the Ethereum and EVM-compatible ecosystems are accustomed to.

Prior to these infrastructure developments, **Ondo Finance** spun up the **Flux Finance** decentralized lending protocol designed to provide utility to its OUSG token holders in early 2023, just as the liquidity fund trend began its upwards ascent. Flux is a fork of one of the original lending protocols, Compound, and offers liquidity pools backed by the Ondo Short-Term US Government Treasuries Fund (OUSG) and DAI, USDC, USDT, and FRAX stablecoins. Flux closed Q4 2024 with $73 million and $32 million in supply and borrow balances, respectively, with half of the supplied assets coming in the form of OUSG ($37 million).

Borrowing Against Real-World Assets (RWAs) in DeFi



Lending Real-World Assets (RWAs) in DeFi



As a middle ground between TradFi and DeFi, support and acceptance of onchain assets by traditional lending entities is significant in its own right:

- Galaxy facilitating onchain lending against a historical $9 million violin
- Abu Dhabi Bank offering lines of credit for tokenized asset issuers through Libre

At the bridge of traditional banking and digital assets, **Galaxy** initiated a real-world asset lending case with one of its existing clients through the tokenization of a 1708 Stradivarius violin. The "Empress Caterina," as the $9 million violin is known, is the physical item for which a Non-Fungible Token (NFT) was minted to represent. The Empress Caterina is presumably locked in safekeeping via a freeport, museum, or agreed upon location, enabling the NFT to "do the talking" for the underlying value of the violin. Once the $9 million value was represented onchain, Galaxy Global Markets' lending arm effectuated the loan terms and supplied the borrower with crypto or stablecoin while the NFT was deposited as collateral. This onchain bridge was facilitated by the Tokenization Wizard from GK8, Galaxy's custody & tokenization subsidiary.

Given that Galaxy Global Markets is a centralized financial services player rather than a DeFi application like Aave of Moonwell, this is a first-of-its kind transaction involving direct lending via blockchain-based assets. Underwriting associated with the collectible violin likely did not change much from status quo; however, the time associated with deployment of funds, interest payments, and loan cycle monitoring is strongly expedited through the

onchain environment. Instantaneous value transfer, smart contract loan logic, and a self-updating ledger are the notable upgrades within this process relative to traditional practices.

Most recently, tokenization platform **Libre** and **First Abu Dhabi Bank** announced a model to bridge traditional banking services with onchain assets. The collateralized real-world asset lending memo of understanding between the groups notes that $335 billion First Abu Dhabi Bank will open lines of credit on Libre-issued assets on public blockchains including Ethereum, Polygon, Solana, Base, Near, and Aptos as part of "Project HODL" (High Yield Optimized Decentralized Liquidity). The initiative aims to be a more institutional-geared application of existing DeFi lending activity, enabling broker-dealers, asset managers, and now regulated banks to participate in real-world asset stablecoin lending, beginning with Libre's $150 million in tokenized investment funds.

The expectation is that banks and lending arms adopting tokenized real-world assets will find themselves with very unique cases across novelty and traditional assets, poised to capitalize on the general tailwinds behind and capital flowing into digital assets.

Access Points and Composability

Tertiarily related, retail-oriented products acting as feeders into existing institutional real-world assets are also coming to market. This may actually bring real-world asset **composability and usability within DeFi** to the masses that the original master product never envisioned or only enabled in a contained environment.

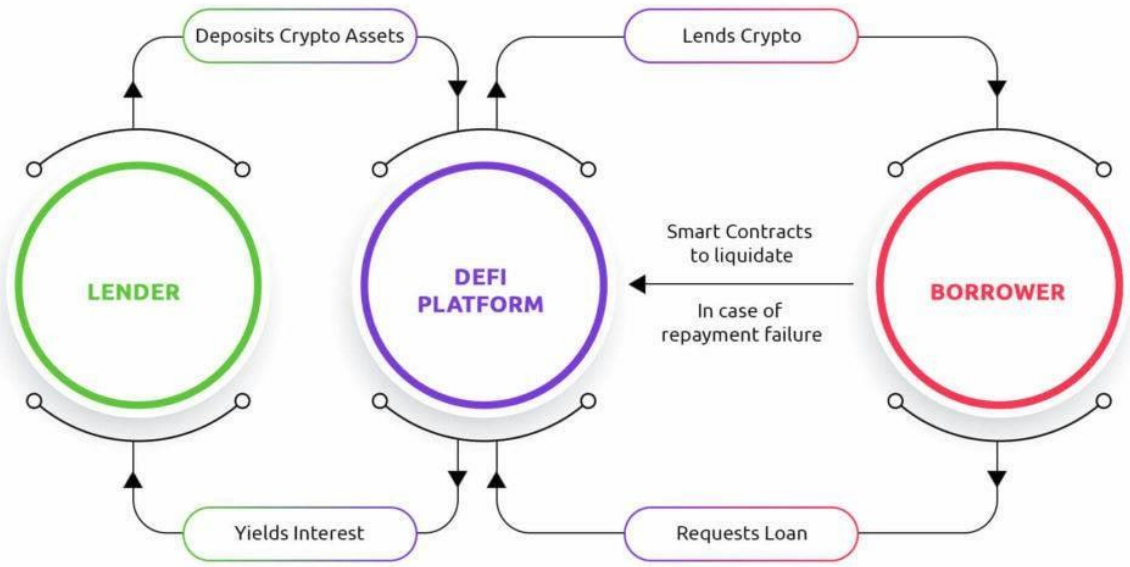
Take BlackRock's BUIDL fund with Securitize, for example. As mentioned above, the institutional fund is working towards a borrowing & lending vault with Elixir. This is still limited to the original target investor audience, which is Qualified Purchasers (QPs). Now look at what Ethena is doing with its newly-formed fiat stablecoin designed to list on centralized crypto exchanges and futures exchanges. Ethena, whose algorithmic stablecoin USDe derived from crypto cash-and-carry trades to maintain a $1 peg surpassed $4 billion in market capitalization since its Q1 2024 launch, announced its USDtb stablecoin that will purchase BUIDL tokens and pass the majority of BUIDL-generated yield to token holders. As an organization with more than $5 million in assets and not an individual, Ethena meets the BUIDL participation criteria of a Qualified Purchaser. Per the trend, USDtb stablecoin will only be available to non-US investors; however, it still acts as synthetic retail exposure to the institutional-only product that is BUIDL.

The expectation is that USDtb will list not only on centralized crypto exchanges and futures markets like Bybit and Deribit, but will also be made available for usage within DeFi

applications for users to supply as lenders, borrow as borrowers, and provide liquidity with as decentralized exchange pair makers. In essence, what seems like a gated product (BUIDL and its Treasury & Repo yields) becomes accessible and actionable to the masses via USDtb.

There are other examples of liquidity funds and stablecoins buying up other liquidity fund tokens like Ondo's OUSG allocating heavily to BUIDL, Mountain Protocol's USDM adding BUIDL tokens to its reserves, and Velo Labs integrating OpenEden's tokenized U.S. Treasury Bills (TBILL) – which is rated *A* by Moody's – as a reserve collateral asset for its USDV protocol.

This is just the start. Protocols and crypto-native issuers with traction will have room to run as additional yield-bearing real-world assets come to market – even if closed to Accredited Investors, Qualified Purchasers (QPs), or Qualified Institutional Buyers (QIBs) – as they act as the bridge between the onchain product access point and the retail or non-US investor base.



(DeFi Lending Workflow - Source: Reddit)

One-Stop-Shop Portfolio Management

Oftentimes the quickest rebuttal to asset tokenization is: *why?*

Why deal with tokenized shares, holdings, or interests if investors and money managers can access equivalent products off-chain?

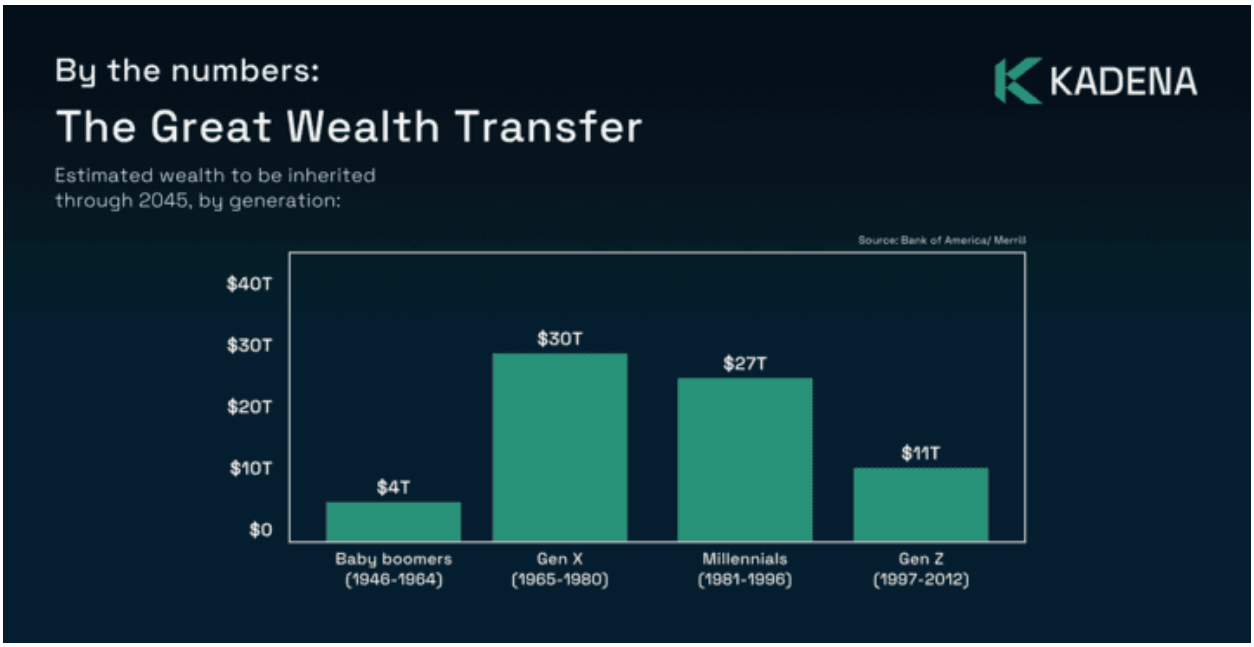
Individuals can pick apart theses, predictions, and opinions all day – working to find one thing *wrong* or *seemingly too challenging* in a new innovation. At junctures like these, where digital assets are becoming more and more a part of capital markets, portfolio allocations, and financial services plumbing, it's paramount to zoom out and take a broad view.

One of the lesser-discussed but significant catalysts behind tokenization is simply the reality that asset & wealth management is becoming more and more digital as the days pass by. The financial services industry becomes *more digital* – not less digital. Nowadays there are hundreds of fund administration software, portfolio tracking dashboards, digital subscription document services, and investment portals. Real estate general partners alone deal with a dozen interfaces to run their day-to-day investment businesses.

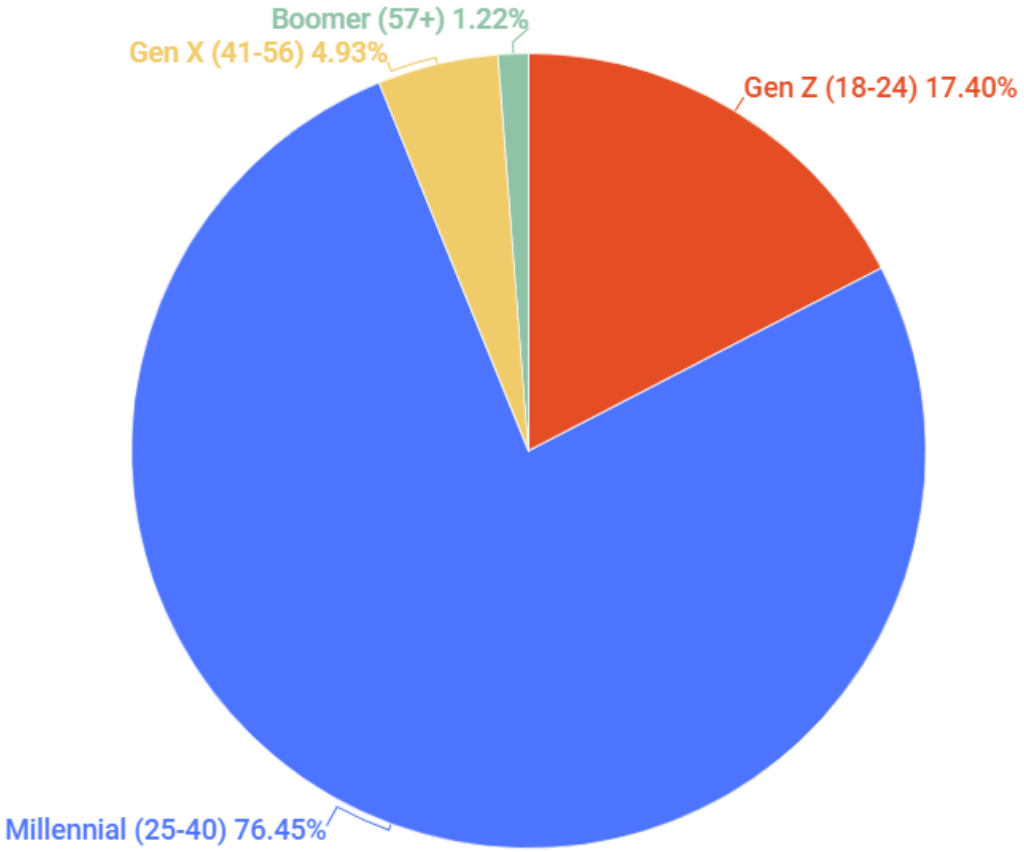
As discussed within this publication, digital assets and blockchain-based products have seemingly cracked the code to composability, developing routes and frameworks for an interoperable approach to portfolio management. Investors can fund their own wallets and custody accounts, transfer stablecoin holdings to DeFi applications, lend out stablecoins for yield, borrow against stablecoins and cryptocurrency holdings, access new crypto investment products, sign documents and enable permissions, and **manage all of these details** in **real-time** from a **single interface**.

That's where the new bar is set for the asset & wealth management industry, courtesy of retail investors and organizations. That's why tokenizing traditional assets is such a strong narrative and wave. Eventually, portfolio managers, GPs/LPs, wealth advisors, and individuals will be able to interact with nearly all of their holdings from a digital assets wallet or custody account: cryptocurrency, stablecoins (tokenized cash), stocks (tokenized), money markets & treasuries (tokenized), private equity (tokenized), private debt & direct loans (tokenized), commodities (tokenized), real estate (tokenized), and more.

The pressure & urgency that asset managers face is properly issuing their traditionally popular investment products onchain to be included in this ever-growing universe. Below are visuals depicting the Great Wealth Transfer by Kadena and the Generational Demographic Breakdown of the Cryptocurrency Industry by Stilt.



(Source: Kadena)



(Source: Stilt)

Millennials and **Gen Z** (Ages 18-40) collectively total just under **94% of crypto market buyers** in the $2.5 trillion industry as of early 2024. The industry has since topped **$3.5 trillion** as a result of ETF approvals, institutional interest, and general market appreciation which likely dilutes some of these demographic figures to an extent. Nonetheless, these two generations are on pace to inherit an estimated **$38 trillion** in assets over time. As stated previously, portfolio management & personal finance become ***more digital*** over time, not less digital. These trillions of dollars will flow to individuals who have become accustomed to managing their assets in digital wallets and interfaces, sending assets throughout the DeFi ecosystem, and having ultimate control over their holdings to much greater extents than any previous generation. It seems very unlikely for that trend to hit an inflection point and reverse.

Token	Market Cap	Price
MicroStrategy Note CMSTR	$16,038,617	$38,647.27
Tesla bTSLA	$1,878,660	$347.90
GameStop bGME	$1,634,272	$29.16
Backed NVIDIA bNVDA	$1,375,200	$137.52
Microsoft bMSFT	$624,950	$431.00
Google bGOOGL	$536,313	$171.62
Robinhood Markets Inc URHD	$143,345	$19.81

As these investors mature and grow their own wealth, it is expected that many will want to diversify out of solely crypto and into alternative asset classes and traditional investments like stocks, bonds, and ETFs. To do so, there will need to exist onchain investment products meeting said criteria, which is why 2025 and beyond will be a race for product issuers to meet this impending demand by placing quality investment offerings onchain. Sample tokenized stocks are displayed on Security Token Market to the left.

On the note of singular investment portals to access the universe of investment offerings, the digital asset industry is still fragmented itself. Users have hundreds of protocols, applications, and components to select – many of which compete for the same service.

Platforms like **GalaxyOne**, **Coinbase Prime**, **MeetAmi Innovations**, **L1 Advisors**, and **Alloy** are working towards integrating crypto holdings and activities (buying & selling, staking, liquidity providing, yield farming, etc.), tokenized asset access through issuance platforms, broker-dealers, and alternative trading systems, and connectivity to bank accounts and legacy financial services. These platforms range from retail to wealth management to institutional usage. Streamlining these related services will be a helpful key in unlocking growth and ease of access when it comes to tokenized real-world assets.

Interesting Cases within Tokenization

Money Market Fund that Automatically Purchases Bitcoin (BTC) with Yield

Frictionless Markets is a Luxembourg-based tokenization platform and fund administrator that's issued a variety of its own tokenized cash management solutions and funds. One fund in particular is a tokenized money market product that automatically reinvests daily fund distributions into Bitcoin (BTC). By holding the BTC-Yielding Money Market Fund, corporations & institutional investors have the benefit of principal preservation and cash management via the money market fund while also effectively Dollar Cost Averaging (DCA) into Bitcoin (BTC) in a hands-off manner.

The Bitcoin exposure is designed to provide upside and inflationary hedging as part of the general macroeconomic BTC pitch versus fiat currencies. Chainlink's Proof-of-Reserves functionality serves to update holdings and accruals in real-time for investors to verify, and the Avalanche blockchain tokenization structure enables an auto-purchasing mechanism that routes yield accruals into BTC purchases in this case. This product and framework become very interesting as corporations evaluate and consider routes for acquiring and holding BTC on their own balance sheets.

# ▲	Company	Symbol	Country	Total Bitcoin
1	MicroStrategy Inc.	NASDAQ:MSTR	US	444,262
2	Marathon Digital Holdings	NASDAQ:MARA	US	26,842
3	Galaxy Digital Holdings	TSE: GLXY	US	15,449
4	Tesla, Inc.	NASDAQ:TSLA	US	11,509
5	Coinbase Global, Inc	NASDAQ:COIN	US	9,183
6	Hut 8 Mining Corp	NASDAQ:HUT	CA	9,102
7	Riot Platforms, Inc	NASDAQ:RIOT	US	8,490
8	Block Inc.	NYSE:SQ	US	8,038
9	CleanSpark Inc.	NASDAQ:CLSK	US	6,154
10	Hive Digital	NASDAQ:HIVE	CA	2,287
11	Exodus Movement Inc	EXOD:OTCMKTS	US	1,792
12	Metaplanet Inc.	TYO:3350	JP	1,761
13	Cipher Mining	NASDAQ:CIFR	US	1,730
14	NEXON Co Ltd	TYO:3659	JP	1,717
15	Semler Scientific	NASDAQ:SMLR	US	1,273

(Source: Bitcoin Holdings by Public Companies – CoinGecko)

Cross-Institutional Onchain Finance

The tokenization space is very much notated by collaborative rather than competitive practices. Likely as a byproduct of the industry's nascent status and the open-source & interoperable nature of blockchain technology, financial institutions, money managers, and corporations alike have put themselves *out there* to work on applications and infrastructure in cohorts *with* each other. A few notable projects and collaborations include:

- JP Morgan's Kinexys (formerly Onyx Digital Assets) wealth management platform Crescendo, in partnership with Apollo, WisdomTree, Provenance Blockchain, & Avalanche
- Wellington Management's private investment fund collateralization & lending proof-of-concept with Citi and DTCC Digital Assets
- Canton Network empowering 22 dApps across financial services

One of the more prominent announcements in late 2023 was the unveiling of **JP Morgan's Crescendo** wealth management platform and its participation in the Monetary Authority of Singapore's Project Guardian. Housed within the bank's Kinexys division, the Crescendo platform is designed to streamline day-to-day wealth management functions down from 3,000 operational steps to just a handful.

The Crescendo operating system is blockchain-based and structured so that wealth managers, financial advisors, and money managers can rebalance client portfolios, create custom investment baskets, perform direct indexing, and access private market investments with greater ease than previously enabled in traditional financial interfaces. The proof-of-concept displayed the platform's ability to work cross-chain in successfully interacting with, allocating to, swapping, and ultimately executing transactions associated with investment funds offered by Apollo and WisdomTree on the Provenance and Avalanche blockchains, respectively. Provenance Blockchain exists in the Cosmos ecosystem while Avalanche is EVM-compatible; the Crescendo platform was able to ingest advisor asset allocation inputs and successfully distribute the deposited tokenized cash amount accordingly.

For instance, assume an advisor received a $1 million add-on cash deposit from a client whose current allocation matrix is 20% cash, 50% money market, and 30% private equity. The smart contracts within Crescendo would have automatically and instantaneously allocated $500,000 to the money market fund, $300,000 to the private equity fund, and kept the remaining $200,000 in tokenized cash. The same can be done for new clients and de novo model portfolios, indices, and investment baskets.

See the below diagram for a sample ESG portfolio makeup and associated products offered (asset class, issuer, and blockchain of origin).

Balanced ESG Model[12]

Asset class	Sub-asset class	Investment vehicle	Fund manager	Settlement network	Tokenization provider	Allocation %
Equities	U.S. Large Cap	J.P. Morgan Private Bank Sustainable Equity Strategy	J.P. Morgan Private Bank	Onyx Digital Assets	Onyx	35%
Equities	European Large Cap	J.P. Morgan Private Bank European Sustainable Equity Strategy	J.P. Morgan Private Bank	Onyx Digital Assets	Onyx	15%
Fixed Income	Core Fixed Income	WisdomTree 7-10 Year Treasury Digital Fund	WisdomTree	Avalanche	Onyx	30%
Alternative Investments	Private Equity	Apollo — Private Equity Fund	Apollo	Provenance Blockchain	Oasis Pro	10%
Alternative Investments	Private Credit	Apollo —Private Credit Fund	Apollo	Provenance Blockchain	Oasis Pro	10%

(Source: The Future of Wealth Management)

This operating system becomes extremely powerful in the $5.5 trillion wealth management industry when looking at the sheer number of trade requests, portfolio rebalancing needs, desire to tap into newer pools of capital at smaller check sizes, growth in model portfolios, and the ever-important needs to scale business practices. Advisors will be able to create or replicate model portfolios, select the applicable clients, click a button, and have the model automatically cast onto and rebalance the clients' portfolios. Back- and middle-offices can remain unchanged or consolidate all the while. This is yet another tailwind for fund tokenization as quality products will need to exist onchain in order to be included within this blockchain-based wealth management universe.

Wellington Management is also a name that surfaces when it comes to tokenized fund collateralization. The $1.4 trillion asset manager participated in a proof-of-concept in which Citi tokenized a Wellington private fund to post as collateral in borrowing a WisdomTree Money Market Fund token within Avalanche's Spruce subnet. DTCC Digital Assets' *Composer* platform was responsible for the workflow automation of the lending transaction including loan processing, collateral management, and liquidation & settlement parameters. This is a sample case in the institution-to-institution realm of tokenization, bringing utility to previously illiquid and cumbersome private investment funds and alternative assets.

Lastly, one of the more robust consortiums is the **Canton Network**. Spearheaded by Digital Asset, the founding organization behind the Daml smart contract platform that underpins tokenization operations for Goldman Sachs and Broadridge, the Canton Network is designed for financial institutions and service providers to progress with blockchain infrastructure in a siphoned-out environment. Counting 30+ members (15 asset managers, 13 banks, 4 custodians, 3 exchanges, and 1 financial market infrastructure provider) including Cboe Global Markets, State Street, DRW, BNY Mellon, the DTCC, and Visa, Canton Network's simulated transactions spanned repo, securities lending, Forex swaps, and trading collateral for derivatives and leveraged transactions.

The ethos of Canton Network is to enable individual firms to explore blockchain utility while maintaining control over their data and privacy within this public-permissioned structure. Use cases in Canton Network are active for these institutions – not solely happening on testnets or in sandbox modes – although are opaque to the general public, unlike public blockchain activities. Notably, **Hashnote's US Yield Coin (USYC)** was the first money market fund adopted into the ecosystem in October 2024. Hashnote has enabled a privacy feature to USYC in Canton so that only the buyer and seller of the token will see transaction data, thus providing institutional users with an extra layer of data security. As a short-term liquidity fund that now plays in the public blockchain (Ethereum, NEAR, Base) and public-permissioned (Canton) spaces, USYC surpassed $1.5 billion in AUM by the end of 2024, up more than *5x* from the $300 million mark since the time of this announcement.

Securities Lending (SecLending) and CFTC Collateral Green Light

Demand for tokenized assets has typically been projected by the groupthink that tokenized real-world assets are solely alternative investments, and that tokenizing them will provide new access channels. While that is indeed one of the catalysts behind tokenization, there's already a strong active use-case for the technology: Securities Lending.

Onchain SecLending has been proven out in volumes:

- JP Morgan's Repo and Tokenized Collateral Network (TCN) surpassing $1.5 trillion in lifetime transactions since late 2020, now averaging $2 billion daily
- Broadridge Distributed Ledger Repo (DLR) accounting for $1 trillion in monthly intraday repo & sponsored repo swaps

A snapshot from the Securities Finance Times on the Future of SecLending and the trending requirements of lenders and investors is displayed below.

"As the securities lending landscape has become more open to a growing number of counterparties, the importance of modern treasury management systems has surged. These systems are crucial for consolidating data related to cash, collateral, margin, securities finance and rates from all counterparties into a central platform. With the rise of complex operational and treasury demands, the days of relying on simple Excel spreadsheets are long gone.

In light of the recent challenges faced by banks, alternative asset managers are increasingly seeking to have a more comprehensive and timely view of their counterparty exposure. Evidently, they want to be able to quickly and accurately assess any potential risks associated with their counterparties, so that they can take appropriate action in a timely manner.

To achieve this, they are no longer content with waiting for periodic reports that may be outdated by the time they are received. Instead, they are looking for near real-time access to data, which can provide them with up-to-date information on their counterparties' financial health, creditworthiness and overall risk profile. The days of waiting for periodic reports are over; near real-time access to data is becoming the norm.

By having this kind of visibility, alternative asset managers can more effectively manage their counterparty risk and make informed decisions about how to allocate their investments. Ultimately, this can help them to improve their overall performance and deliver better results for their clients."

SecLending and collateral mobility see immediate upgrades via distributed ledger technology (DLT) as some of the cumbersome components within the equation – like delays in cash and securities settlement, dispute management, and contractual ownership tracking – become programmatic, much like the functionality that short-term liquidity fund tokens have addressed.

The **Commodity Futures Trading Commission (CFTC)** also voted in favor of three frameworks to adopt tokenized assets as collateral for derivatives. The digital assets sub-committee's thesis is that since tokenized assets enable simple 24/7 transferability, tokenized non-cash collateral can actually be used for variation margin posting. In existing practices, both cash and non-cash collateral like government bonds, equities, and agency securities can be posted to meet the *Initial Margin* requirements associated with opening a fully collateralized or partially collateralized (leveraged) derivatives position. As the value of the derivatives position changes, additional collateral may be required to maintain the credit health of the position via *Variation Margin*. In volatile and urgent times, cash is typically the preferred collateral to satisfy margin calls with due to the numerous

intermediaries and time delays associated with transferring securities and non-cash assets. In a standardized, tokenized framework, stocks, bonds, and even alternative assets with robust pricing & surveillance may be able to meet variation margin needs via real-time posting. For addressable market reference, global exchange traded derivatives have a notional open interest of $88 trillion while Over-the-Counter (OTC) derivatives account for $742 trillion.

Disclosures

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