

Institutions Enter DeFi:

The Current Status of BlackRock's BUIDL

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Executive Summary

- **Introduction:** On March 20, 2024, BlackRock, a prominent asset manager, expanded its presence in Web3 by collaborating with U.S.-based tokenization platform Securitize to issue the tokenized fund BUIDL (BlackRock USD Institutional Digital Liquidity Fund). This follows the approval of its Bitcoin spot ETF, marking a significant step for mainstream cryptocurrency investment. The tokenized fund BUIDL represents traditional institutions leveraging public blockchain technology to enhance operational and capital efficiency, signalling a broader adoption of blockchain.
- **Problems Addressed by Tokenized Funds:** Traditional public offering funds, such as money market funds, involve multiple institutions for operations, leading to inefficiencies and high costs due to separate databases. Tokenized funds, issued as tokens on public blockchains, eliminate the need for centralized registries and reduce costs by providing real-time, traceable transaction records. They enable real-time atomic settlement and secondary market trading, improving capital utilization and offering higher returns. Tokenized funds also support diverse applications like staking and lending through smart contracts.
- **Institutional Adoption of Public Chains:** The DeFi landscape demonstrates blockchain's advantages, but transitioning traditional financial capital to Web3 faces significant resistance. Fund tokens, with whitelist controls for KYC and AML compliance, showcase mainstream institutions exploring DeFi. Examples include Franklin Templeton's FOBXX and WisdomTree's WTSYX, which initially used blockchain for auxiliary accounting. BlackRock's BUIDL marks a breakthrough by using public blockchains as primary accounting tools, with Securitize as a regulator-recognized transfer agent.
- **BUIDL's Design and Performance:** BUIDL, issued on Ethereum as an ERC20 token, enables real-time, on-chain transfers within a whitelist. It supports interactions with smart contracts and provides real-time USDC redemption through Circle. As of July 9th, 2024, BUIDL's AUM reached \$502.8 million, held by 17 addresses, with significant participation from institutions like Ondo Finance. BUIDL facilitates DeFi integration, allowing stable real-world returns to flow into the DeFi world.
- **Challenges and Future Prospects:** Despite BUIDL's success, significant regulatory and compliance challenges remain. The tokenization of assets faces conservative regulations globally, with restrictions on offerings to qualified investors. However, initiatives by BlackRock and Franklin Templeton are driving attention to the efficiencies of on-chain interactions and encouraging the development of new laws and standards.

Introduction

On March 20, 2024, BlackRock, a leading asset manager, further expanded into Web3 by collaborating with U.S.-based tokenization platform Securitize to issue the tokenized fund BUIDL (BlackRock USD Institutional Digital Liquidity Fund), following the issuance of its Bitcoin spot ETF. While the approval of the Bitcoin spot ETF brought cryptocurrency into the realm of mainstream investment as a new asset class, recognizing its status, the greater significance of the tokenized fund BUIDL lies in attempts by traditional institutions to leverage public blockchain technology to enhance operational and capital efficiency. This signifies a recognition and adoption of blockchain technology itself.

What Problems Can Tokenized Funds Solve Compared to Traditional Funds?

The funds widely accessible to retail investors are generally public offering funds, which are subject to strict regulations due to their low investment thresholds, wide coverage, and large fund sizes. These are typically exemplified by money market funds. Generally, unless otherwise specified, the operational processes of these funds involve the collaboration of multiple institutions, each responsible for a part of the fund's operations to improve efficiency through specialized operations, and to prevent any single entity from having excessive centralized power which can potentially lead to malicious acts. These typically include fund distribution channels (banks, brokers, financial advisors), fund administration, transfer agents, fund audits, custodians, exchanges, etc.

However, due to the multiple and separate databases maintained by these parties, significant friction and costs may arise. Typically, each fund's subscription and redemption processes involve various institutions in this chain. Orders are transmitted manually or automatically, and settlements are completed through settlement systems, often taking several days to finalize a transaction.

With fund tokenization, fund shares are issued and traded in the form of tokens on public blockchains. Shares are directly delivered to investors' wallets as tokens, and the shares and net asset values (NAVs) can be viewed publicly on the blockchain. All transaction records are accessible and traceable on the blockchain, recorded automatically in real-time, thereby eliminating the need for centralized registries and avoiding the costs associated with multiple verifications.

After tokenization, distribution platforms can use smart contracts to achieve real-time atomic settlement between fund share tokens and payment tokens (such as stablecoins), reducing the waiting time for investors. If the fund tokens have a secondary market on the blockchain, investors can directly enter and exit the market in real-time. This reduces the scale of redundant funds kept within the fund for redemptions, thereby improving capital utilization and creating higher returns. Investors can enjoy an efficient trading experience through a real-time settlement secondary market on the blockchain, avoiding the waiting periods of subscriptions and redemptions associated with traditional markets.

Additionally, tokenized funds can support and integrate more application scenarios, such as staking, lending, and other business scenarios through smart contracts, thus meeting more diverse user needs.

Institutional Attempts on Public Chains: From Auxiliary Tools to Main Ledgers

The DeFi scene fully demonstrates the advantages of blockchain. However, transitioning vast traditional financial capital from a complete Web2 system to a new system based on Web3 technology entails significant resistance that needs to be gradually advanced and overcome, with new practical solutions needing to be explored.

Unlike common cryptocurrencies, fund tokens generally have whitelist controls arising from KYC and AML compliance requirements. Each whitelist address corresponds to a user who has passed KYC on the fund or distribution platform, and transactions to non-whitelisted addresses cannot be executed. Issues such as transfer risks, fund loss risks, and transaction monitoring arising from free transfers between addresses are challenging to overcome without risk control solutions.

However, we notice that mainstream asset management institutions are also exploring the DeFi field, attempting to reform their products by leveraging blockchain technology. We can see the trajectory of evolution in their product designs.

In 2021, the American asset management giant Franklin Templeton issued the tokenized fund Franklin Onchain U.S. Government Money Fund - FOBXX. Initially, tokens were maintained by the transfer agent on a centralized database system with secondary records on Stella and Polygon. If there were conflicts between centralized and blockchain records, the centralized records would prevail. Investors traded fund share tokens through Franklin's app Benji, with each investor assigned an on-chain address,

but investors do not have control over the private key. In 2022, WisdomTree issued a similarly designed tokenized fund investing in short-term U.S. Treasuries on the Stella blockchain, named WTSYX.

The designs of FOBXX and WTSYX effectively used blockchain as an auxiliary accounting tool to make share records public without reaping substantial benefits.

In March 2024, BlackRock issued the BlackRock USD Institutional Digital Liquidity Fund (BUIDL) through the tokenization platform Securitize, achieving significant breakthroughs. One reason is that Securitize, as a regulator-recognized transfer agent, can use public blockchains as the primary accounting tool to record ownership and changes in issued assets.

In-depth Look at BUIDL Design: Obstacles and Improvements

According to BUIDL's issuance documents, the basic issuance information is as follows:

- **Issuer:** BlackRock USD Institutional Digital Liquidity Fund Ltd. (BlackRock's BVI entity, established in 2023)
- **Registration Exemption:** SEC Reg D Rule 506(c), Section 3(c)(7) (Reg D is an exemption for securities issuance, allowing fundraising from qualified investors without limits on the number of investors and the scale of fundraising)
- **Registered Security Type:** Pooled investment fund
- **Investment Threshold:** Qualified Purchasers.
- **Minimum Investment Amount:** \$5M USD for individual investors; \$25M USD for institutional investors
- **Issuance Scale and Investor Scale:** No upper limit

At issuance, the only distribution channel is Securitize Markets LLC, an SEC-registered broker-dealer. Additionally, Securitize LLC, related to Securitize, is an SEC-registered transfer agent, capable of registering and recording securities ownership on the blockchain.

It's worth noting that this fund's issuance used a newly registered BVI entity of BlackRock, rather than its regulated fund issuance entity. This arrangement is likely to mitigate risks and avoid impacting its licensed entities. According to sources, the SEC registration documents list four related personnel: Ian Pilgrim in Bermuda, Jennifer Collins in the Cayman Islands, W. William Woods in Canada, and Noëlle L'Heureux in

California, USA. Noëlle L'Heureux is a Managing Director at BlackRock with 32 years of experience at the company. The other three appear to be third parties.

BUIDL Product Design

- **Trading Currency:** USD
- **Subscription and Redemption:** Daily subscriptions and redemptions
- **Investment Strategy:** Primarily invests in short-term U.S. Treasuries
- **Share NAV:** 1 BUIDL = 1 USD
- **Token Standard:** Specially designed ERC20 with a whitelist mechanism; tokens can only circulate among whitelisted addresses, and transfers to non-whitelisted addresses will fail
- **Yield Calculation:** Calculated daily at 3:00 PM New York Time based on the shareholdings; yield is distributed through airdrop of new BUIDL tokens on the first working day of each month
- **Redemption Rules:** Daily redemptions based on holding BUIDL tokens at 1 BUIDL = 1 USD; direct redemptions through Securitize require sending tokens to a specified address, followed by burning BUIDL and completing USD redemption off-chain by 3:00 PM daily, generally settled on T+0. Accumulated income between distribution periods requires a "full redemption" operation, completed 2-3 working days after interest distribution (first working day of each month).

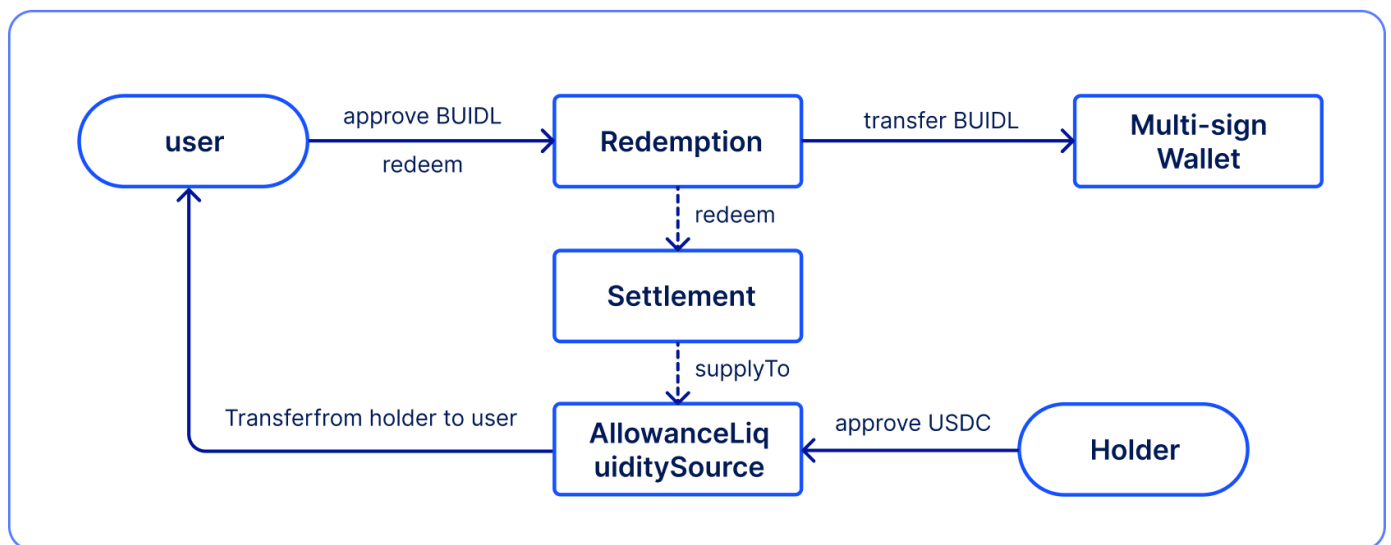
BUIDL is an ERC20 token issued on the Ethereum blockchain, enabling free circulation within the whitelist, and can enter whitelisted smart contracts. Interactions with non-whitelisted addresses will fail. For DeFi users, this straightforward step represents a significant breakthrough for traditional finance, indicating that large institutions are starting to recognize public blockchains as accounting tools for recording asset ownership transfers. Based on ownership, a series of rights will be recorded on the blockchain ledger, enjoying its transparency, efficiency, and traceability.

Through open transfer of asset ownership, BUIDL tokens can also interact with smart contracts, such as the Aave and Compound lending protocols, as long as they are whitelisted. This enables more diversified business scenarios and use cases.

By enabling the transfer function, BUIDL has to some extent enjoyed the advantages of a blockchain-based settlement system. One use case is provided by Circle. After the release of BUIDL, Circle introduced a contract that allows real-time exchanges of BUIDL

for USDC and prepared a redemption reserve of 100M USDC to offer BUIDL holders the option of redeeming 1 BUIDL for 1 USDC in real-time.

This redemption option is provided by Circle and essentially constitutes an OTC transaction: Circle offers an exchange contract where users can transfer funds into the exchange contract, triggering the contract to transfer USDC from another EOA (Externally Owned Account) to the user's address. All these steps are on-chain transactions, ensuring atomic settlement.



PI: Circle USDC redemption flow, Source: DigiFT

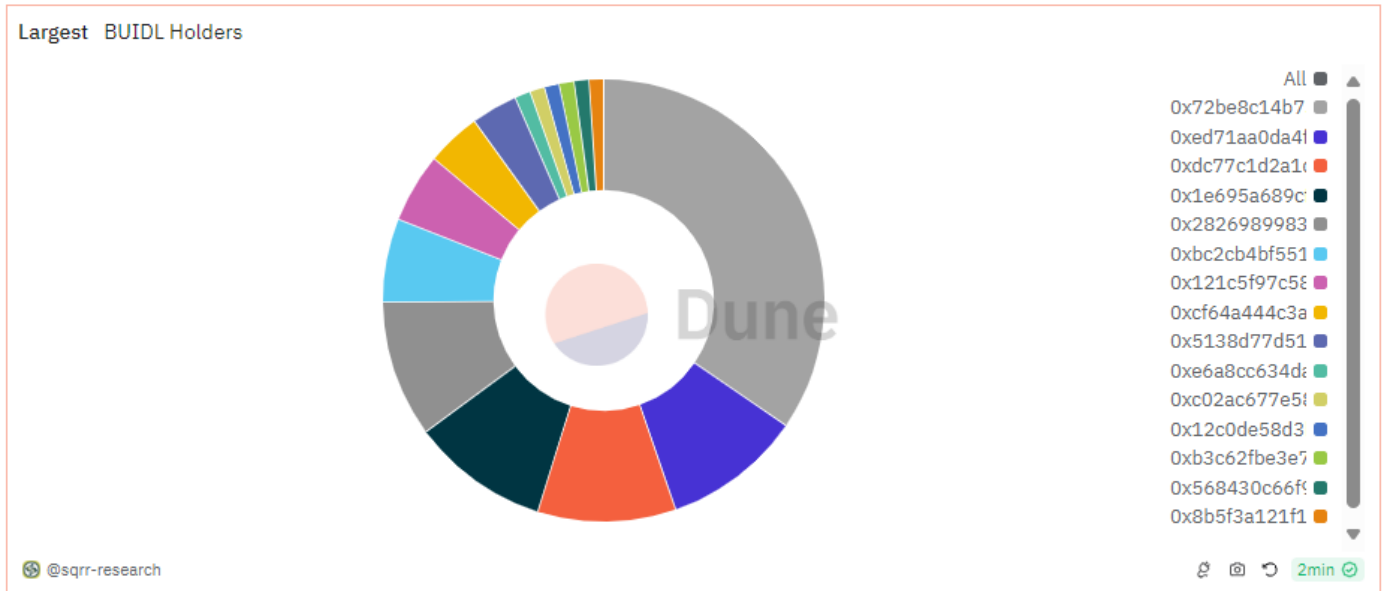
Initially, the EOA account holds a balance of 100M USDC. Since BUIDL tokens accrue daily interest through a centralized accounting system, any interest accrued between the last interest distribution and the transfer will be paid out in the next distribution period. After the exchange of BUIDL for USDC, Circle holds the BUIDL tokens and decides on subsequent actions. From the current on-chain information, it appears that Circle periodically redeems BUIDL through Securitize to exchange for USD, then mints USDC and replenishes the pool.

How is BUIDL doing after three months?

As of May 15, 2024, BUIDL's AUM (Asset Under Management) has surpassed Franklin Templeton's tokenized treasury fund FOBXX, making it the largest tokenized fund project. By July 9th, 2024, the total AUM reached 502.8 million USD. However, compared to the trillion-dollar scale of the traditional market, the overall tokenized treasury fund

market, with a total scale of 1.81 billion USD (data source: RWA.XYZ, July 9th, 2024), still has significant room for growth.

Currently, BUIDL is held by 17 addresses, with the holdings distribution as follows:

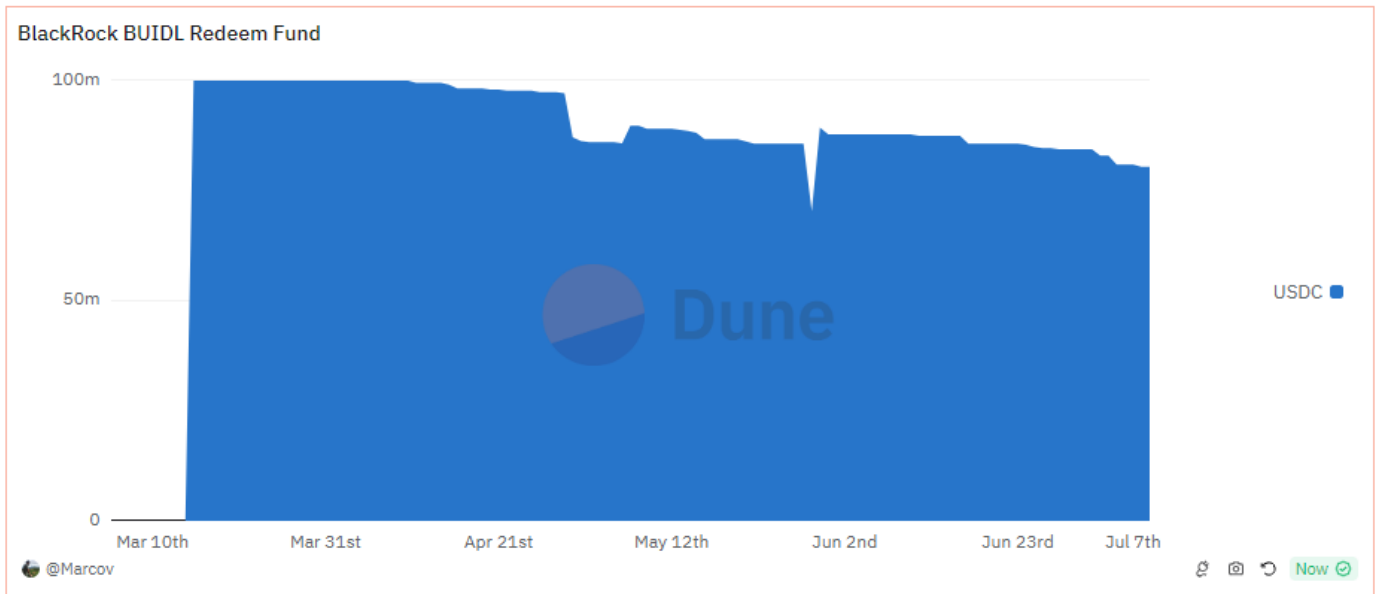


P2: BUIDL holders pie chart, Source: dune.com, data as of July 9th

Among the 17 addresses mentioned above, 2 addresses belong to Ondo Finance (Securitize allows each customer to bind up to 10 on-chain whitelisted addresses), which is the largest holder with a total of 223 million BUIDL, valued at 223 million USD. The two addresses are 0x72, holding approximately 173 million BUIDL, and 0x28, holding approximately 50 million BUIDL. These serve as the underlying assets for its tokenized treasury fund product OUSG (AUM 223 million USD). Previously, the underlying assets were Blackrock iShares' short-term treasury ETFs, which have been fully converted to BUIDL following its issuance. Currently, OUSG's redemption operations are carried out in real-time USDC redemption through Circle's contract.

Additionally, due to BUIDL's partnerships with several crypto custody institutions, multiple addresses on the chain appear as EOA addresses with no historical transaction records. These may belong to traditional institutions invited by BlackRock and Securitize to try purchasing tokenized funds, with custody managed by these custody institutions' accounts.

The USDC redemption pool provided by Circle currently has a balance of 80.6 million USDC. The main redeemer is Ondo Finance. Circle's address (0xcf) also holds approximately 19.6 million BUIDL.



P3: BUIDL redemption fund pool USDC holding, Source: Dune.com, data as of July 9th

The Path to DeFi

Due to the investment threshold set by BUIDL, ordinary users find it difficult to directly obtain BUIDL. However, BlackRock's issuance of stable, secure money market funds on the blockchain allows other institutions to use BUIDL as an underlying asset to bring stable real-world returns into the DeFi world.

A typical example here is Ondo Finance. As mentioned earlier, Ondo is the largest holder of BUIDL. By utilizing BUIDL and the redemption contract provided by Circle, Ondo Finance has enabled the rapid subscription and redemption of its money market fund product OUSG through USDC, while lowering the user threshold from an initial investment minimum of 5 million USD to 100K USD. Additionally, Ondo can collaborate with other DeFi protocols to further pass on the returns to the DeFi world. For instance, through DeFi lending platforms like Flux Finance, anonymous DeFi users can also gain real-world returns by providing stablecoins liquidity. This multi-layered packaging structure allows real-world returns provided by large traditional institutions to be channelled into the DeFi world.

Institutions Are Fully Entering? There Are Still Many Obstacles

Products like BUIDL enhance the efficiency of liquidity management in the current market by combining on-chain and off-chain designs, providing investors with channels to earn real-world returns on the blockchain. Through tokenization of funds, BlackRock, in collaboration with Web3 institutions such as Securitize, Circle, and Ondo Finance, allows Web3 institutions to obtain real-world returns in the form of tokens on public chains, avoiding complex on-off ramp processes, adding application scenarios and increasing fund utilization efficiency through smart contracts.

Essentially, what BUIDL is doing here is allowing tokens to be transferred on-chain without the involvement of centralized institutions. Behind the simple transfer function, compliance and legal costs are very high. It's difficult to achieve transfers between different accounts, or even accounts with the same name, on traditional financial platforms. Generally, financial institutions only allow trading, subscription, and redemption on platforms. A month after BlackRock implemented the transfer function, Franklin Templeton's FOBXX also implemented it, indicating institutional recognition of public chains as ledgers and a breakthrough at the product level. (The difference is that FOBXX holders do not have control over the private key, so they can only transfer within the platform and cannot truly operate on-chain).

Looking at the regulation of asset tokenization in different countries and regions, the current regulation is generally conservative: the United States has no clear legislation, so asset issuers rely on various exemption clauses, and BlackRock avoids affecting its regulatory-compliant entity by setting up a BVI SPV for issuance. In other regions such as Singapore, asset tokens are subject to whitelist restrictions and can only be offered to qualified investors. These restrictions and uncertainties hinder further entry of users and institutions into the Web3 domain.

Optimistically, explorations into tokenization by entities like BlackRock and Franklin Templeton have attracted significant attention from the financial sector, demonstrating the efficiency of on-chain interactions with real-world cases, while also driving regulation to promote the formulation of new laws and standards.

About DigiFT

DigiFT is the first regulated exchange for on-chain real-world assets, approved as a Recognised Market Operator with a Capital Markets Services license by the Monetary Authority of Singapore. DigiFT allows asset owners to issue blockchain-based security tokens and investors can trade with continuous liquidity via an AMM.

Established in Singapore in 2021, DigiFT is fully committed to meeting regulatory requirements to operate in the capital markets space in Singapore, while providing innovative financial solutions that push the boundaries of financial services in a responsible manner.

DigiFT's founding team comprises executives who have held positions within the finance and fintech worlds at Citi, Standard Chartered, Morgan Stanley, Shenzhen Stock Exchange and possess deep blockchain technology knowledge, having successfully developed digital asset exchange and products in the past.

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