The Role of Canton Coin
in the Network

Canton

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Canton

Presented by The Tie

Introduction

"Data shows that early application providers in the Canton Network utilizing the Global Synchronizer are being rewarded for their initiative, demonstrating Canton Network's core design principle of valuing users that provide utility to the network."

The Canton Network is a public blockchain ecosystem designed with a focus on privacy and control fit for institutional finance while maintaining the transactional composability of DeFi. Within this ecosystem, the Global Synchronizer provides a decentrally operated public network infrastructure that provides provable atomic synchronization between Canton Network applications and their corresponding subnets.

This paper examines the role of Canton Coin, the utility token available to participants who use the Global Synchronizer, which provides an optional mechanism for fee payment, and incentivizes participation in this infrastructure.

Key features of Canton Coin include:

Utility-based Rewards Distribution: rewards all participants who add value to the network - from infrastructure providers and application builders to active users and validators.

Activity-driven Tokenomics: A burn-and-mint equilibrium mechanism where network activity directly influences token supply – fees are burned based on transfer and payment activity and conversion rates adjust over time to find an optimal equilibrium.

Balanced Incentive Structure: The tokenomics initially favor infrastructure providers to bootstrap network capacity, then shift to emphasize application providers over time, encouraging long-term ecosystem development.

Introduction (con'td)

The adoption of Canton Network has been driven by its configurable privacy capabilities, which serve as a foundational feature for both traditional asset tokenization and distributed ledger initiatives, as well as institutional cryptocurrency markets. Canton Coin enhances this foundation by providing infrastructure and incentive mechanisms that support both application development and user engagement. A key benefit to the coin is transparency – Canton Coin's public data provides a window into the growing utilization of these privacy-preserving applications across the ecosystem.

Several institutional implementations demonstrate this privacy-centric adoption trend. Hashnote[1] integrated USYC on Canton to enhance its privacy capabilities, for example, to enable confidential collateral transfers. Similarly, QCP[2], a prominent cryptocurrency market maker, is developing a margin management application on Canton to maintain confidentiality in bilateral trading operations. Circle's[3] announcement of USDC integration with Canton emphasized privacy as an essential feature, particularly for facilitating interoperability and institutional-scale use cases with assets like USYC and supporting the continued development of on-chain capital markets applications.

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1   https://www.hashnote.com/blog/hashnotes-yield-bearing-usyc-is-now-available-with-privacy-on-the-canton-network

2   https://www.prnewswire.com/news-releases/the-canton-network-and-qcp-announce-crypto-derivatives-margining-collaboration-302352255.html

3   https://www.canton.network/news/circle-announces-acquisition-of-hashnote-and-usyc-tokenized-money-market-fund-alongside-strategic-partnership-with-global-trading-firm-drw

Introduction (con'td)

This paper will explore:

1   Canton Coin's function within the Global Synchronizer

2   Roles and opportunities for network participants (super validators, validators (users), and application providers)

3   The network's economic model, including its tokenomics and burn mechanism

4   Current applications and use cases

Digital Asset, the original creators of the Canton protocol, have open sourced the software for the Canton Network, including the Global Synchronizer and Canton Coin, which benefit from decentralized operation and governance. As such, the Linux-facilitated Global Synchronizer Foundation (See sync.global), provides transparency into operations and a forum to participate in decisions and improvement proposals. This has enabled major industry names to join the foundation and actively participate in the network.

For a comprehensive understanding of the Canton Network's foundations and its approach to transforming real-world assets through compliant tokenization, we encourage you to revisit The Canton Network Series [Part 1 of 5].

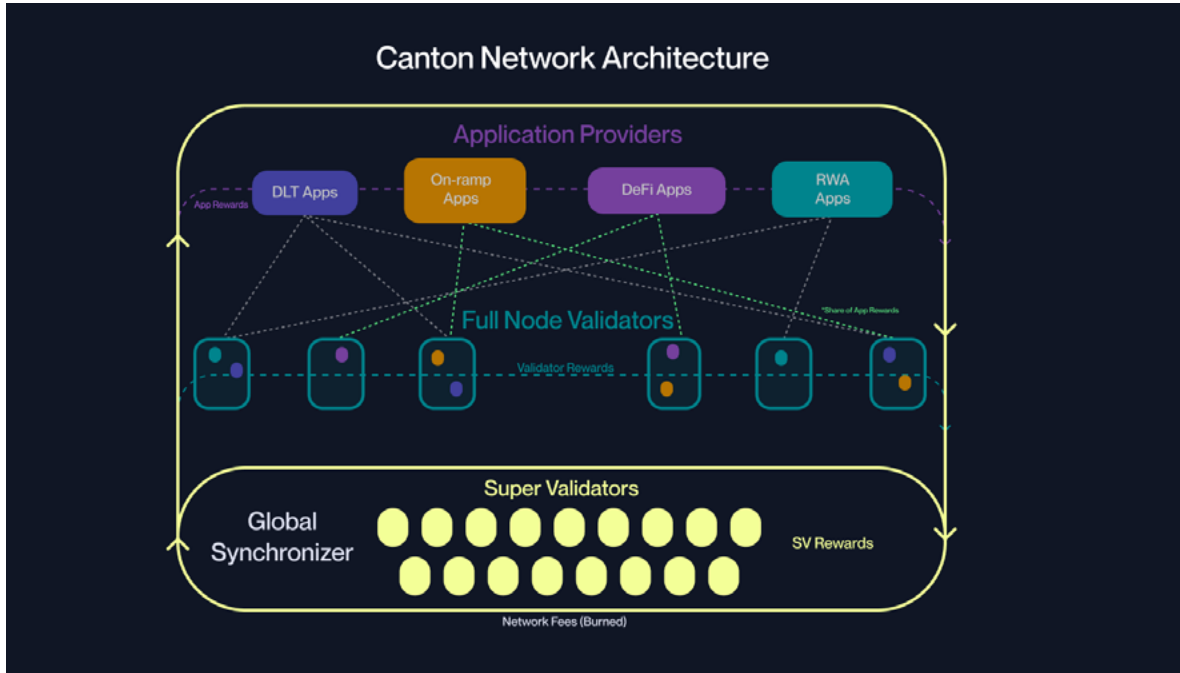## Canton Coin: Powering Utility, Network Participation and Rewards

Figure 1: *An abstracted overview of the Canton Coin architecture.*

Canton Coin is a utility token specifically designed for use with the Global Synchronizer - the Canton Network's decentralized interoperability infrastructure. It serves several important functions:

1   Traffic Fee Payment: Canton Coin is primarily used to pay traffic fees for using the Global Synchronizer. Users have the option to prepay for transaction traffic which is then used to cover network fees associated with interacting with the application.

2   Incentivizing Network Utility: The token can be minted by app builders and infrastructure providers as they bring utility to the Global Synchronizer ecosystem. This design encourages third parties to develop applications that utilize the Global Synchronizer, thereby promoting and accelerating the growth of connected capital markets and DeFi-esque innovation and asset tokenization. Ultimately this cumulates in a network that dissolves the barriers between TradFi and crypto-markets.

(cont'd)

Canton Coin: Powering Utility, Network Participation and Rewards

3   Optional Payment Mechanism for Applications: Application providers have the flexibility to denominate their service fees in Canton Coin or USD and process these as Canton Coin payments via the Global Synchronizer. This creates a unified economic system across the network while allowing optionality and control for institutions based on their specific requirements.

4   Providing Transparency: While the design of Canton Network is such that transactions are private between participants by default, Canton Coin rewards, the Super Validators operating the Global Synchronizer publish Canton Coin fees and transaction volumes for public consumption. This design choice allows for some level of transparency into network activity, showing which applications are the most actively used and providing the most utility while maintaining privacy at the business transaction level.

The Global Synchronizer: Ensuring Transaction Integrity

The Global Synchronizer maintains the integrity and consistency of transactions across the network through three primary functions:

1   Privacy-Preserving Transactions: The Canton protocol ensures that only verified stakeholders see, validate, and record their parts of a transaction, even when transactions span multiple applications and networks.

2   Decentralized Operation: The Global Synchronizer uses a 2/3rd majority Byzantine Fault Tolerant (BFT) consensus protocol for message ordering and confirmation, ensuring no single party can control the Global Synchronizer. The Linux Foundation facilitates governance of the Global Synchronizer through the GSF (Global Synchronizer Foundation), providing transparency in operations and organizational neutrality in the governance of this decentralized infrastructure.

3   Atomic Consistency: The Global Synchronizer employs a two-phase commit process, alongside cryptographic proofs called commitments and hash-linked UTXO records, to guarantee atomic transaction consistency and deterministic finality across all participating parties and applications.

Fee Structure and Economic Model

- Transactions incur sequencing fees paid in Canton Coin, calculated based on the size of the transaction.

- Network fees are "burned" (removed from circulation) rather than paid to Validators.

- This burning mechanism aims to maintain Canton Coin's value as network usage increases.

- New Canton Coins are minted as rewards for network participants, creating a balanced economic system.

This structure is designed to create a self-sustaining ecosystem that incentivizes participation and maintains the network's value proposition for institutional users.

UNDERSTANDING CANTON COIN AND THE GLOBAL SYNCHRONIZER

Canton Network's Pathway to Institutional Adoption

Private applications in the Canton Network have been live, in production with financial institutions and enterprises for many years. The Global Synchronizer and Canton Coin went live in July 2024. Anyone can apply to operate a Validator connected to the Global Synchronizer via a form with the Foundation. Some Network partners offer wallet access (Copper, Dfns, HydraX) while others offer Validator-aa-S (IntellectEU, Kiln, Node Monster) to make accessing the Global Synchronizer easier. Anyone can have a wallet connected to the Global Synchronizer but operating a Validator is currently gated behind this lightweight process.

Participants in the Canton Network at large range from traditional financial institutions such as Goldman Sachs, BNP Paribas, HSBC, Euroclear, and Broadridge to a variety of well-known crypto-centric institutions like Circle, QCP, DRW, Copper, Dfns, Brale, and Hashnote.

As the network evolves, this model is expected to open up, broadening the range of participants while maintaining the network's commitment to quality and compliance. The involvement of these established players across both traditional and institutional crypto markets provides a strong foundation for the network's continued development and adoption.

Fair Launch Model: A Foundation of Earned Value

Canton Coin's distribution model revives the traditional fair launch approach, where coins are earned rather than pre-allocated. Three key principles define this approach:

1   No Pre-mine or Pre-sale: Unlike many blockchain projects, Canton Coin launched without any pre-mined tokens or pre-sale allocations. This ensures that all Canton Coins in circulation have been earned through actual network participation.

2   No Foundation Allocation: The Global Synchronizer Foundation received no special token allocation. This aligns with the network's principles of decentralization and earned participation.

3   No VC Distribution: There were no preferential token distributions to venture capital firms or early investors. This prevents the concentration of tokens among speculative holders.

Every Canton Coin in circulation today has been earned by participants providing measurable utility to the network - whether through infrastructure operation, application development, or active network usage. This earned distribution model aims to create strong alignment between token ownership and network value creation.

This distribution approach provides context for understanding how Canton Coin facilitates network operations and incentivizes participation, which we examine in the following sections.

The Global Synchronizer comprises three main participant types, each playing a crucial role in network growth and maintenance, therefore earning the right to mint Canton Coin:

1   Super Validators (miners): Large institutions securing the decentralized infrastructure.

2   Full Node Validators (app users): Participating entities in the Canton Coin system via apps. They only validate transactions they are party to.

3   Application Providers: Innovators deploying smart contract applications and tokenized RWAs.

In addition, end-users who want to access assets on the network can do so via existing validators or wallet and key custody providers.

Reward Distribution

The network's reward structure is designed to evolve, shifting focus from infrastructure providers to application developers and users as the network matures.
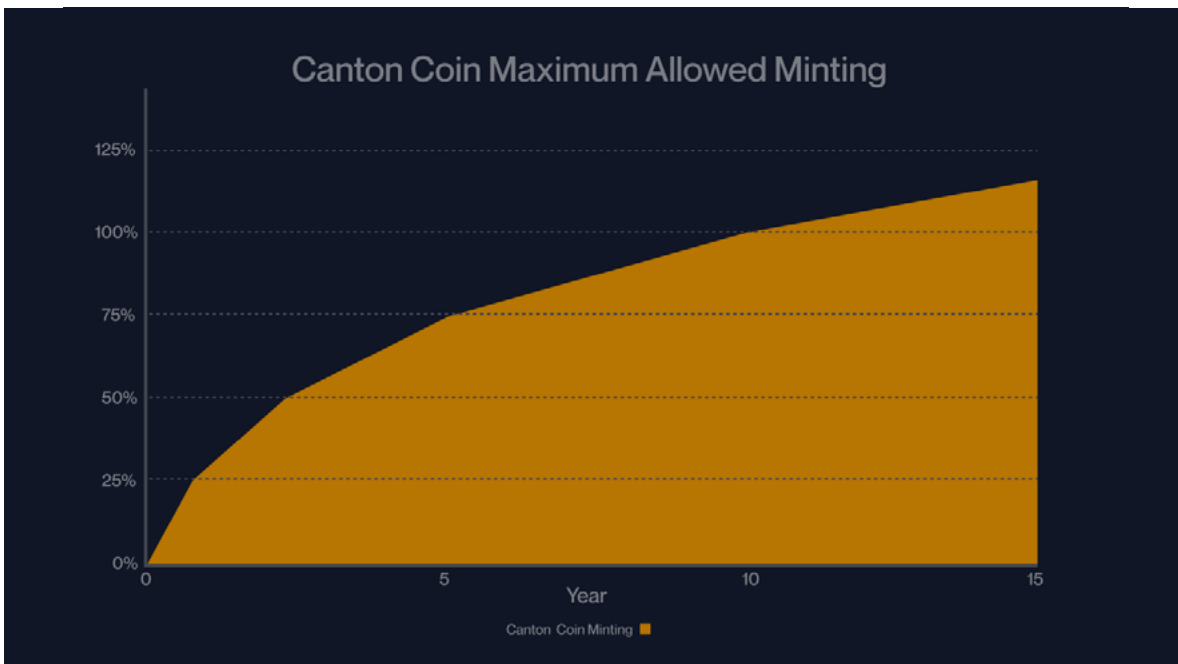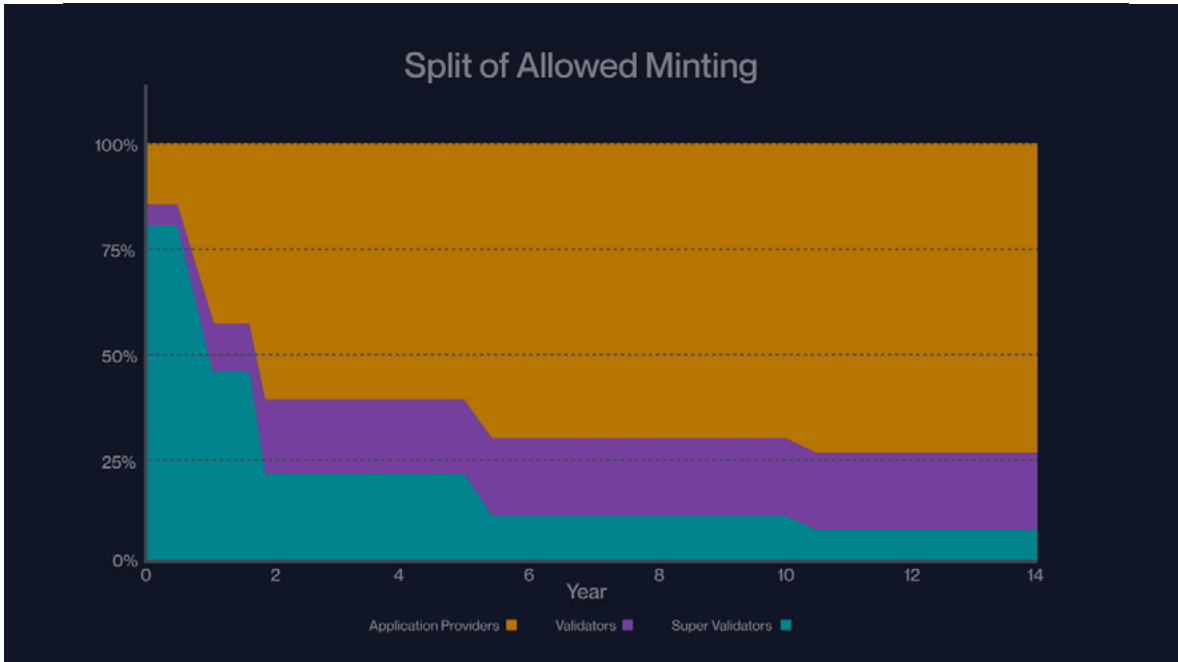
Figure 2 and 3: Proposed charts of Canton Coin Reward Split over Time and Maximum Allowed Minting, derived from Canton Network's tokenomics whitepaper. See section 5. Network Analysis: Current State of the Canton Network, for on-chain verified versions of these charts.

Application Provider Opportunity

Currently, the opportunity for application providers is significant given the increase in reward splits over time and the early stage of Global Synchronizer usage. As you can see from the app leaderboard today (see Figure 6 in the Network Analysis Section), the first live applications are already taking advantage of being early to market. The reward structure for application providers functions as an ongoing, perpetual grant program, incentivizing long-term development and innovation.

In Section 6. Case Study I: Brale and Case Study II: Hashnote, we add additional color on how these application providers are capitalizing on app rewards.

Tokenomics and Burn Mechanism

The Global Synchronizer employs a burn-and-mint equilibrium mechanism to manage Canton Coin's supply and value.

How It Works

1   Burning: Network usage fees are burned, removing coins from circulation.

2   Minting: New coins are minted as rewards for activity on the network every 10 minutes.

3   Equilibrium: The network aims to issue and burn approximately 2.5 billion coins annually.

Figure 4: *The Mint-Burn equilibrium mechanism.*

This mechanism creates a self-regulating system that helps maintain price stability and aligns Canton Coin's value with network utility.

Benefits:

- Price Stability
- Alignment with Network Value
- Predictable Supply (total supply limited via Burn-Mint equilibrium)
- Incentive Alignment

Network Analysis: Current State of the Canton Network
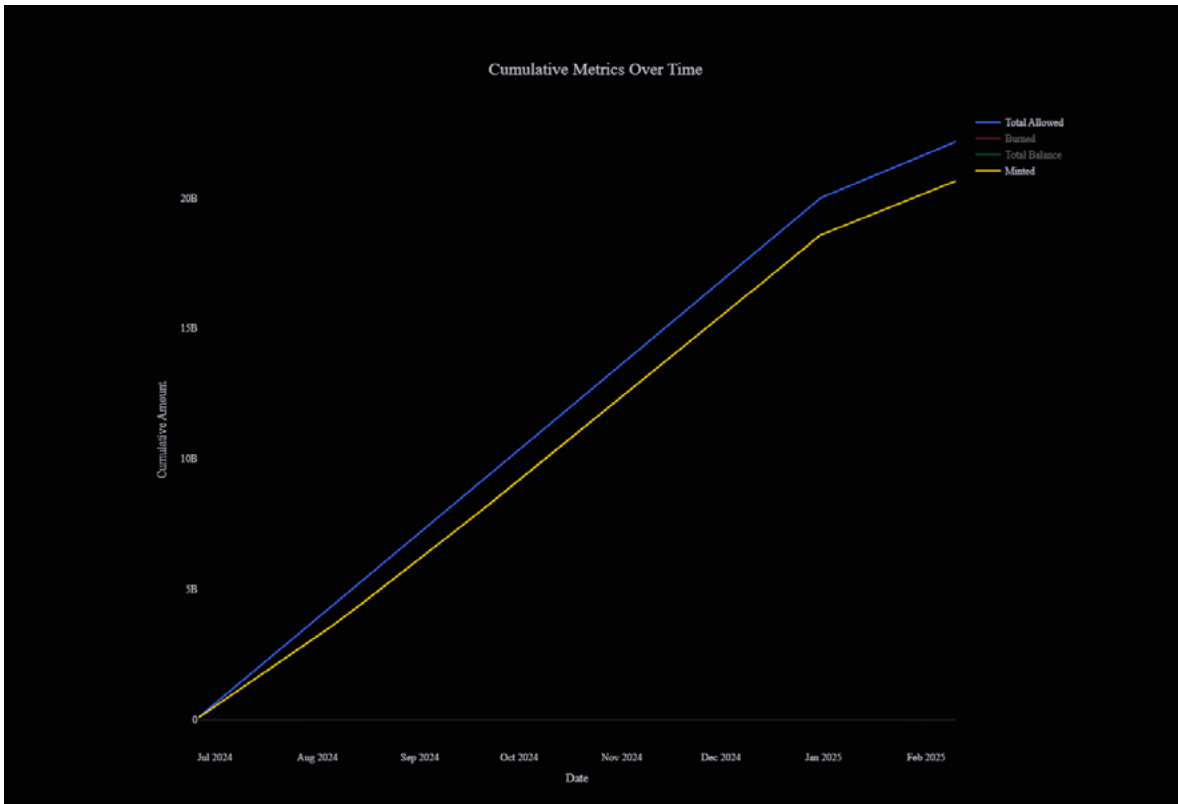
Figure 5: An on-chain look at the current Canton Coin supply on February 10, 2025. This data is on-chain verified and sourced by The Tie, displayed on The Terminal - Canton Dashboard.

The Canton Network's current state reveals several key insights about its growth and opportunities. Based on recent data, the network has so far issued 20.63 billion Canton Coins, supported by a robust foundational infrastructure of 17 Super Validators and 68 Validators. This infrastructure demonstrates the network's commitment to security and decentralization while maintaining its invite-only, institutional focus.

30 Day Canton Coin Validator Leaderboard		
Party	Orginization	↓ 30 Day Rewards
digit...78e	Digital Asset	5.74M
Cumbe...bcf	Cumberland Gas Station	5.34M
brale...a9e	Brale	2.93M
Cumbe...c2e	Cumberland	2.4M
valid...259	Hashnote	2.39M
Digit...419	Digital Asset	2.39M
Digit...529	Digital Asset	2.39M
hydra...bee	Hydra X	2.38M
Cumbe...c25	Cumberland	2.38M
Cumbe...c52	Cumberland	2.38M
proof...1e1	Proof Group	2.38M
svnod...842	SV Nodeops Limited	2.38M
3trad...102	3Trade	2.37M
SV-No...eef	SV Nodeops Limited	2.37M
coppe...e61	Copper.co	2.37M
qcp-w...948	QCP Capital	2.37M
Globa...0ac	Global Synchronizer Found:	2.37M
Orb-1...a92	Orb-1-LP	2.37M
Trade...f99	Tradeweb	2.37M
LCV-S...ab5	Liberty City Ventures	2.37M
valid...ca6	DFNS	2.37M
valid...818	Broadridge	2.37M
primr...806	Primrose Capital	2.37M
bitwa...1bb	Bitwave	2.37M
MPC-H...d6b	MPC Holding	2.37M

Figure 6: *A 30-day leaderboard of Validator earnings – table and pie chart, February 10, 2025. This data is on-chain verified and sourced by The Tie, displayed on The Terminal - Canton Dashboard.*

Reward Distribution

The reward distribution structure shows a deliberate evolution in the network's priorities. Initially, Super Validators receive approximately 80% of rewards, reflecting the importance of establishing a strong foundation. However, this allocation gradually shifts, decreasing to 20% by year five, while application rewards increase from 15% to 62% during the same period. This transition indicates the network's strategic focus on fostering application development and user adoption over time.

As of December 31st, the coin supply issuance rate halved, and the share of rewards significantly increased for Application providers.

Figure 7: The reward split of Canton Coin over time with the most recent supply change highlighted. This data is on-chain verified and sourced by The Tie, displayed on The Terminal - Canton Dashboard.

Participant Activity

Analysis of recent on-chain Canton Network data reveals a compelling opportunity for new application providers. The monthly reward distribution data from July 2024 through January 2025 shows a clear pattern of early-mover advantage, with pioneering applications capturing significant portions of the reward pool. Notable applications like Hashnote USYC on Canton, 3trade, and Brale have established strong positions, with monthly rewards ranging from 100M to 500M Canton Coins.
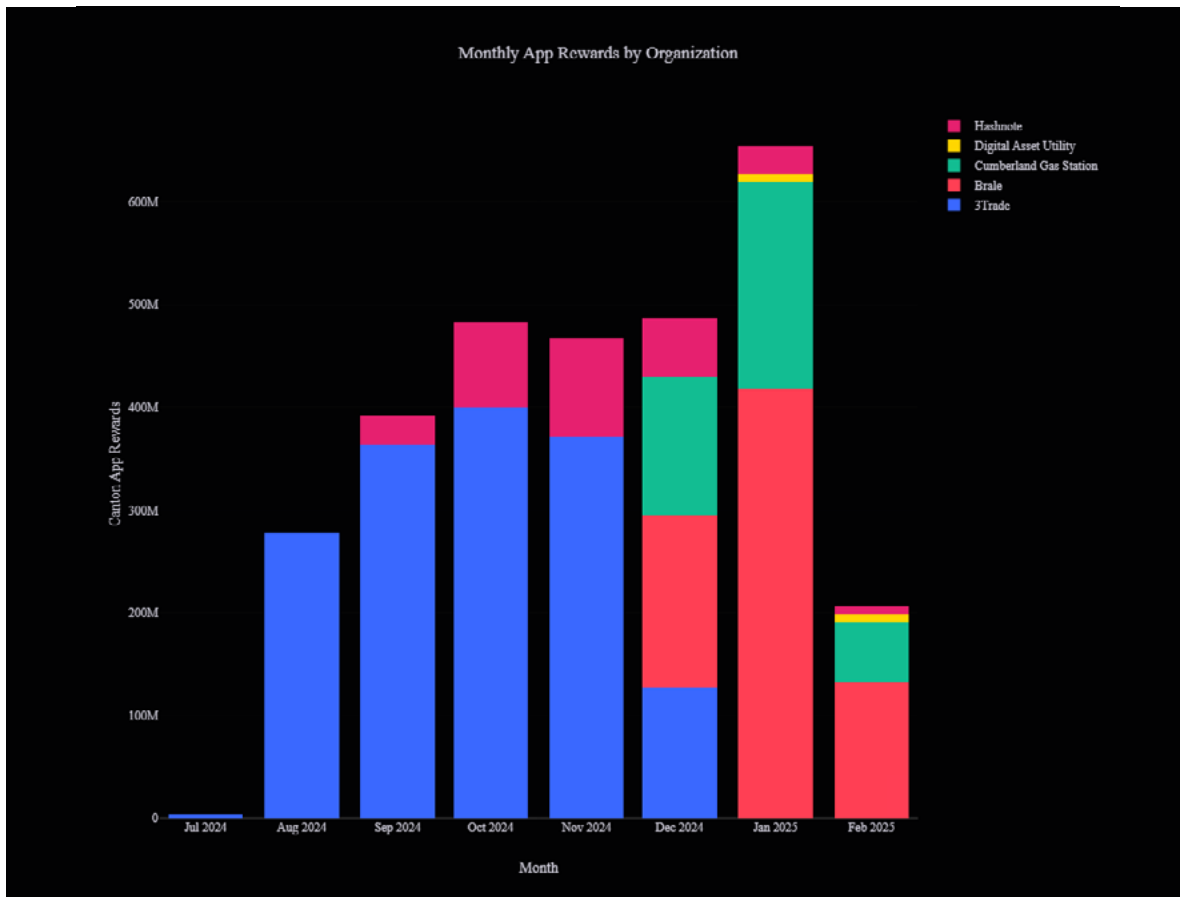
Figure 8: *The Application rewards share month-to-month by entity. Note that February is ongoing. This data is on-chain verified and sourced by The Tie, displayed on The Terminal - Canton Dashboard.*

The data paints a clear picture: with the recent shift toward higher application provider rewards and the early stage of Global Synchronizer usage, the Canton Network presents a significant opportunity for new entrants in both areas. While early movers like Hashnote, Cumberland, and Brale have demonstrated the potential for success, the current utilization patterns suggest there remains substantial room for institutions ready to deliver valuable applications and services to the early Canton ecosystem.

A Canton-based solution to convert major stablecoins into network-native equivalents for institutional payments and settlements - with privacy.

Key Network Contributions:

1   Creates 24/7 liquidity bridge between traditional stablecoins (USDC/USDT) and Canton's ecosystem.

2   Introduces privacy-preserving on-chain payment and settlement layer for treasury and capital markets transactions.

3   Incentivizes usage through Canton Coin rewards for custody/minting activity.

How Brale leverages Canton Coin:

When you custody, mint, or settle on Canton, you can claim Canton Coin rewards through Brale's share of the App Rewards program.

Canton Network Utility

Stablecoin and fiat on-ramp and atomic interoperability for secure on-chain payment and settlement.

An app bringing true market yields to Canton with a network-native tokenized money market instrument that can be moved and swapped with privacy on Canton.

Key Network Contributions:

1   Large institutional liquidity (over $1bn AUM) via tokenized reverse repo product (USYC).

2   Enables confidential collateral movement e.g. for initial and variation margin.

3   Cross-app yield-bearing collateral, convertible with on-chain cash e.g. stablecoins.

4   Composability of USYC with trading/custody apps.

5   Demonstrates ease of bringing assets natively to Canton to capture its privacy feature.

How USYC leverages Canton Coin

Subscription fees to USYC on Canton are charged in Canton Coin and Hashnote currently redistributes a share of app rewards to connected validators.

Canton Network Impact

Introduces yield-bearing asset to collateralize bilateral or exchange-based trades, and move in and out of positions with complete privacy.

Both examples highlight strategic approaches to:

1   Address unmet institutional needs on other public chains by deploying assets and services to Canton.

2   Leverage Canton's core capabilities and existing ecosystem (privacy, interoperability and ~3.6T institutional-grade RWAs on-chain).

3   Harnessing Canton Coin as a utility token, both for on-chain payments, but also to encourage adoption.

These studies demonstrate how digital asset issuers, service providers, and third-party developers can capture early mover value by meeting participant needs and providing utility to the network, while strengthening Canton Network's position as a go-to institutional blockchain.

The Canton Network and Canton Coin present a compelling proposition for public network adoption, combining privacy-preserving architecture with tokenomics designed for scalable value capture. From The Tie's perspective, two key factors stand out from our on-chain dataset and case studies:

1. Tokenomics Aligning Early Participation with Long-Term Growth

The burn-and-mint mechanism creates layered incentives:

- Super Validators (miners) secure immediate infrastructure rewards (Phase 1) while actively participating in fair and transparent infrastructure governance.

- App Providers capitalize on the current low competition for app rewards with generous minting rights and recently increased reward structure (Phase 2 - current).

- Validators (users) can access novel financial primitives with stable utility token dynamics and earn participant rewards, as well as potentially earning a share of app rewards from existing application providers (Ongoing).

2. Privacy-Enabled Network Effects

Canton's architecture specifically facilitates:

1   Institutional Liquidity with Privacy: Hashnote's USYC implementation demonstrates privacy-compatible yield instruments at TradFi scale [Case Study II]

2   Application Interoperability: Brale's stablecoin infrastructure enables confidential settlements across Canton Network's connected apps [Case Study I]

3   17 Super Validators: Byzantine Fault Tolerant consensus and independent governance secures network operations (notable participants in governance and/or operations include Euroclear, Tradeweb, Cumberland, SBI DAH, Broadridge, Lennar, Copper, QCP and more) [Network Analysis]

As reward structures continue to evolve from Super Validators (Phase 1 - past) to application growth (Phase 2 - current), early participants gain strategic positioning in a network purpose-built for a public network with privacy. All along, the Global Synchronizer mechanism maintains Canton's core differentiation: enterprise-grade confidentiality without compromising network effects and liquidity.

For questions about this paper or more information on the Canton Network, please contact research@thetie.io.

The Tie

The Tie Terminal™ is the leading information platform for institutions in digital assets. With its unmatched breadth and depth of proprietary data, our platform powers a consolidated workflow, giving professionals all the information they need to stay on top of the crypto market, and make more educated investment decisions.