



The Race Among
Move-Based Blockchains -
**A Deep Dive into the
Competition and
Ecosystem Development
of Sui and Aptos**



Abstract

- In terms of TPS data, Sui's theoretical performance is higher. However, Aptos generally has lower transaction fees, while Sui's Gas fees can be relatively higher in certain transaction scenarios.
- By the end of 2024, Sui's monthly active users reached 8.3 million, while Aptos reached 10 million, with Aptos' daily active users continuously growing, demonstrating higher user stickiness.
- Sui's TVL peaked at \$2.3 billion in 2024, while Aptos reached a peak of \$1.3 billion in December 2024.
- Sui reached a daily transaction peak of 58.4 million transactions in 2024, while Aptos set a single-day transaction record of 326 million transactions in August 2024.
- Sui set a daily Gas fee income record of \$160,000, while Aptos' highest record was \$100,000. Additionally, Aptos' daily average Gas fee income in 2024 was consistently at a lower level.
- By January 10, 2025, Sui's net capital inflows in the past year reached \$1.16 billion, while Aptos experienced a net outflow of \$3.5 million.
- By the end of 2024, Aptos' stablecoin market cap reached \$633 million, while Sui's stablecoin market cap was \$370 million.
- In 2024, SUI's price performance was strong, with a full-year increase of 500%, repeatedly breaking historical highs. In contrast, APT's price growth was more moderate, with the price even retreating at the end of the year and failing to set new historical highs.
- Aptos' ecosystem projects (187) significantly outnumbered Sui's (86). Sui's users are mainly concentrated in areas like social and gaming, and it briefly attracted some capital through Meme coins, but the enthusiasm did not last. Aptos, on the other hand, focused on RWA and BTCFi, attempting to expand its ecosystem by introducing more assets.
- Sui's decentralized exchange (DEX) transaction volume reached a peak of \$674 million in 2024, while Aptos' highest daily transaction volume was \$86.9 million.

- In the Sui ecosystem, 7 DeFi protocols had a TVL of over \$100 million, while Aptos had only 5. Additionally, Sui's tokens performed better in market cap rankings, with multiple tokens entering the top 1,000, while Aptos' tokens were mainly ranked outside the top 1,000.

Keywords:

Gate Research, Move Language, Sui, Aptos

Gate Research: The Race Among Move-Based Blockchains - A Deep Dive into the Competition and Ecosystem Development of Sui and Aptos

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1 Introduction

The rise of the Move language is sparking a new wave of competition in the public blockchain space. Move-based blockchains, such as Sui and Aptos, have quickly gained prominence in the industry due to their outstanding performance and thriving ecosystems.

Sui and Aptos originate from Facebook's Diem project, inheriting the Move language's core features. In 2024, Sui has significantly impacted, rapidly becoming a mainstream blockchain as its transaction volume increases, fees decrease, and liquidity improves. The concurrent growth in activity on decentralized exchanges (DEXs) and total locked value (TVL) has solidified this trend. As a result, SUI has seen its price surge, climbing nearly five times. On the other hand, Aptos is recognized for its strong community support and a rich DeFi ecosystem. Thanks to the launch of the Bitcoin restaking protocol Echo and USDT, Aptos has seen its TVL grow steadily, with its monthly active users surpassing 10 million, indicating a robust increase in on-chain activity.

With the success of both Sui and Aptos, more developers and investors are turning their attention to the Move ecosystem. However, due to their similar backgrounds, there has been ongoing debate over which project will dominate the Move-based public blockchain sector. This report will provide an in-depth data-driven analysis of the overall performance of the Sui and Aptos ecosystems in 2024, covering key areas such as network performance, user growth, capital inflow, ecosystem development, and token performance to offer a comprehensive picture of their respective progress.

2 Background

2.1 The Public Blockchain Competition: Diversification and Innovation

Public blockchains are a central narrative in Web3, with new players entering the space during each cycle. As Web3 applications evolve, demands for higher performance, security, scalability, and other features have grown. With Ethereum already established as the industry leader, every new blockchain faces the challenge of competing with it. To differentiate themselves, public blockchains have focused on achieving high performance—some integrate with the Ethereum Virtual Machine (EVM) ecosystem via Layer 2 (L2) or sidechains, while others, like Solana, take a more extreme approach with scalable Layer 1 solutions. Layer 0 (L0) protocols also aim

to enable cross-chain data and asset transfers by providing compatibility with existing public blockchains.

The security and reliability of blockchain networks place high demands on programming languages. A robust programming language not only boosts development efficiency but also enhances smart contract security. As such, the choice of programming language has become a key factor in the competition between blockchains.

- **Developer Choice:** The programming language adopted by a blockchain influences which developers choose to build on it. For example, Solidity and Rust represent distinct technical paths and attract different developer communities.
- **Ecosystem Growth:** A rich programming language ecosystem can draw in more developers, facilitating Dapp creation and deployment, which in turn drives the overall growth of the ecosystem.
- **Driving Innovation:** The introduction of new programming languages often brings new technical approaches and application scenarios, providing a fresh energy for blockchain development.

New public blockchains must possess a unique advantage to stand out in a competitive market. Choosing the right programming language has become one such route to differentiation. By introducing a novel programming language, new blockchains can build ecosystems that set them apart from existing ones, attracting developers and users from specific niches.

In summary, the core of competition in the public blockchain sector lies in both narrative and technological innovation. As the foundation for a blockchain's technology, the choice of programming language plays a pivotal role in its growth. If new blockchains can innovate in their choice of language and application, building a unique ecosystem, they may secure a significant place in the Web3 landscape.

2.2 The Creation of the Move Language

Solidity, Ethereum's primary programming language for smart contracts, enables developers to build complex applications on the blockchain. However, Solidity's design limitations, such as vulnerabilities like reentrancy attacks, have led to multiple security issues.

Solana, a major competitor to Ethereum, opted for Rust due to its security, performance, and expressive capabilities, making it ideal for constructing high-performance blockchains. However, unlike Ethereum, Solana chose not to adopt WASM and instead developed its own virtual

machine and bytecode, raising the developers' learning curve.

The Move language was created to address security concerns inherent in languages like Solidity, while providing greater scalability for blockchain networks. The design goal of Move is to ensure that digital assets are secure, verifiable, and non-replicable—avoiding common blockchain security problems. Move's core advantages are its security, verifiability, and flexibility. It comes with powerful built-in security features, such as static type checking and formal verification, which allow developers to detect and resolve vulnerabilities during the compilation process, improving the overall security of smart contracts. Additionally, the Move Prover tool offers formal verification to ensure the reliability of smart contract code. Move also enables developers to write efficient and composable contracts, all while maintaining high security.

Figure 1: Comparison of Solidity, Rust, and Move

Programming Language	Solidity	Rust	Move
Design Purpose	Ethereum smart contracts	High performance, security	Diem blockchain, asset security
Key Features	Object-oriented, high-level, static typing	High performance, memory safety, concurrency safety, zero-cost abstractions, ownership model	Static typing, resource-oriented, verifiability
Strengths	Easy to learn, extensive tools, mature ecosystem	High performance, memory safety, concurrency safety	Asset security, verifiability, strong security
Weaknesses	Security issues, performance bottlenecks	Steep learning curve	Smaller ecosystem, less community support
Learning Curve	Relatively easy	Steep	Between the two
Representative Projects	Ethereum, Uniswap	Solana, Polkadot	Aptos, Sui

2.3 Research Framework for Move-Based Public Blockchains

Move has become one of the most talked-about technologies in the blockchain space. The two major public blockchains based on the Move language, Aptos and Sui, have inherited the technical foundation of the Diem project, which has helped them emerge as promising new public chains. Due to their shared origin, Aptos and Sui's technical architectures and community ecosystems have many similarities, leading to frequent comparisons.

While Aptos and Sui are equally strong in terms of technology and community support, their development paths differ. Aptos focuses on high performance and scalability, aiming to create the next-generation blockchain infrastructure. In contrast, Sui emphasizes security and user experience, aiming to provide more user-friendly interactions.

Funds and users are the two main driving forces behind the success of a public blockchain ecosystem. For both Aptos and Sui, attracting capital and maintaining user activity are critical to the flourishing of their ecosystems. Thus, we should focus on the following key indicators:

- **Drivers of Capital Inflows:** Factors like innovative applications, quality projects, and policy support that attract capital.
- **Liquidity Capacity:** Whether the underlying technology, transaction processing capabilities, and ecosystem maturity of the two blockchains can handle large amounts of capital.
- **Key Metrics:** How data such as Total Value Locked (TVL), transaction volumes, and the number of active users reflect the level of capital and user engagement.

Based on these indicators, this report will compare the two public blockchains, analyzing their background, technical features, network performance, user activity, capital flow, ecosystem growth, and token performance.

3 SUI Ecosystem Analysis

3.1 Background and Introduction

Sui is a high-performance Layer 1 blockchain developed by former Facebook engineers. It uses the Move programming language and promises excellent scalability, security, and user experience. Sui aims to provide Web3 developers with an efficient and reliable platform to build the next generation of decentralized applications. Key features include:

- **High throughput:** Sui can process a large number of transactions with low-latency confirmation times.
- **Security:** The Move programming language ensures a higher level of security, protecting against common smart contract vulnerabilities.
- **Scalability:** Sui's architecture supports horizontal scaling, enabling it to meet the growing demand of users.
- **Developer-friendly:** Sui offers a comprehensive set of development tools that lower the entry barrier for developers and enhance the overall user experience.

Sui is developed by Mysten Labs, and its core team members are all from Facebook's Novi and Diem projects, including Evan Cheng, Adeniyi Abiodun, Sam Blackshear, George Danezis, and Kostas Kryptos. The team currently consists of about 150 members. In addition to the core development team, Sui also has a foundation that is responsible for ecosystem building and project support. The foundation team has about 50 members, with Christian Thompson, the former Chief Information Security Officer at Meta, serving as its leader.

Sui has completed two rounds of large-scale financing, totaling \$336 million. In December 2021, Sui completed a \$36 million Series A funding round, led by a16z, with participation from Coinbase Ventures, NFX, Slow Ventures, Scribble Ventures, Samsung NEXT, Lux Capital, and others. In September 2022, under the leadership of FTX Ventures, Sui secured another \$300 million in a Series B funding round. Other notable investors include a16z, Coinbase Ventures, Jump Crypto, Circle Ventures, Binance Labs, and O'Leary Ventures.

Figure 2: Key Milestones Before Sui's Mainnet Launch

Date	Event	Notes
2021-12-07	Mysten Labs enters the market	Completed \$36 million Series A funding, gaining attention
2022-03-23	Sui's Layer 1 Blockchain announced	Launched developer tools, marking the start of ecosystem development
2022-05-06	Sui Testnet (SUI DevNet) released	Open to developers for testing, attracting more participants
2022-05-31	Mysten Labs announces SUI token economics and incentives	Clarified token distribution and incentives, guiding community development
2022-08-02	SUI incentive testnet registration opens	Attracting more users to participate in testing in preparation for mainnet launch
2022-09-08	Mysten Labs completes \$300 million	Series B funding secured more funding, accelerating project development
2022-10-27	SUI Foundation launched	Providing funding and resources for ecosystem development
2022-12-14	SUI Foundation releases SUI token distribution details	Clarified token distribution ratios, ensuring community rights with 50% reserved for foundation management
2023-01-26	SUI Network launches SUI Testnet Wave 2	Further testing to prepare for mainnet launch
2023-03-22	SUI mainnet expected to launch in Q2 2023	Confirmed mainnet launch time, generating community anticipation
2023-03-22	Mysten Labs repurchases \$96.3 million in preferred stock and SUI token warrants from FTX	Responding to the FTX crisis
2023-03-29	SUI launches permanent testnet	Providing developers with a stable long-term testing environment
2023-04-15	Three exchanges announce the public sale of SUI tokens	Expanding token circulation, increasing project exposure
2023-05-03	SUI mainnet goes live	Official launch of the project, marking the beginning of a new phase
2023-05-03	Exchanges open SUI token trading	Users can trade SUI tokens on exchanges

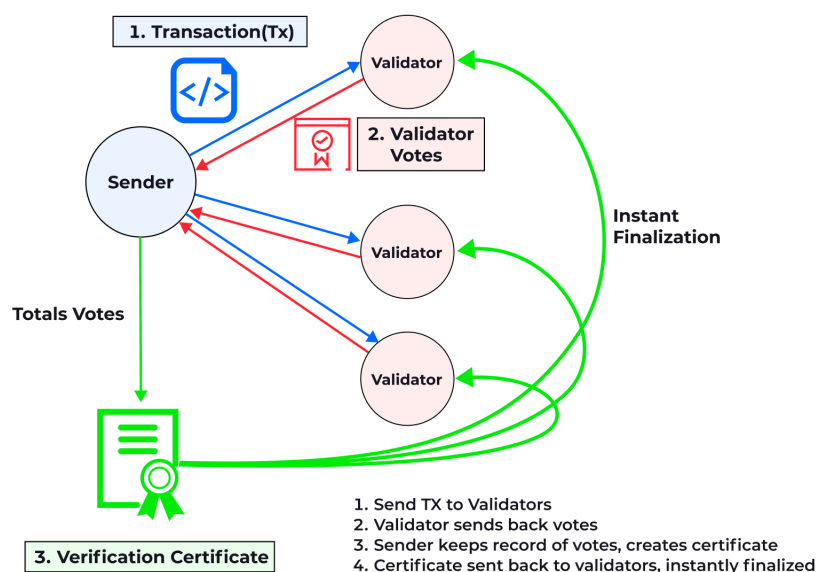
3.2 Technical Features

Sui claims significant performance, scalability, and security advancements through architecture and consensus mechanisms innovations. Key innovations include optimizations for simple transaction processing, using a Directed Acyclic Graph (DAG) data structure, and customizations to the Move programming language.

3.2.1 Optimization of Simple Transactions

Sui differentiates between simple and complex transactions, utilizing different consensus mechanisms for each. For simple transactions, such as transfers or NFT trades (single-writer transactions), Sui has implemented special optimizations. By using a Byzantine Fault Tolerance (BFT) consensus broadcast algorithm, Sui simplifies the consensus process. The transaction initiator is responsible for gathering validator votes, which reduces network load and enhances transaction speed. This approach avoids the complexity of traditional consensus protocols, lowers network latency, and ensures security via BFT consensus broadcasting. Sui employs the DAG-based Narwhal-Bullshark consensus protocol for more complex transactions involving multiple objects or smart contracts. This system packages transactions into a DAG structure for parallel processing, ensuring both transaction order and consistency through multiple rounds of voting.

Figure 3: Sui's Byzantine Consensus Broadcast Mechanism



3.2.2 DAG Data Structure

Sui adopts a Directed Acyclic Graph (DAG) data structure, where each transaction is treated as a node in the graph. This structure eliminates the need for transactions to be linearly connected, instead forming a complex network where each transaction can have multiple predecessors. The DAG structure offers several advantages:

- Transactions can be processed in parallel without waiting for the previous one to be confirmed, significantly increasing transaction throughput.
- Each transaction can have multiple parent nodes, improving the system's robustness and making it more adaptable to complex transaction scenarios.
- Nodes only need to store transactions relevant to themselves, reducing storage costs and increasing the system's scalability.

Sui implements a two-layer consensus mechanism based on DAG with the Narwhal and Bulshark components. Narwhal is responsible for packaging transactions into a DAG, while Bulshark selects leaders randomly to finalize the sorting of transactions in the DAG and reach consensus. This dual-layer design ensures both the order and finality of transactions.

3.2.3 Sui Move: A Customized Move Language

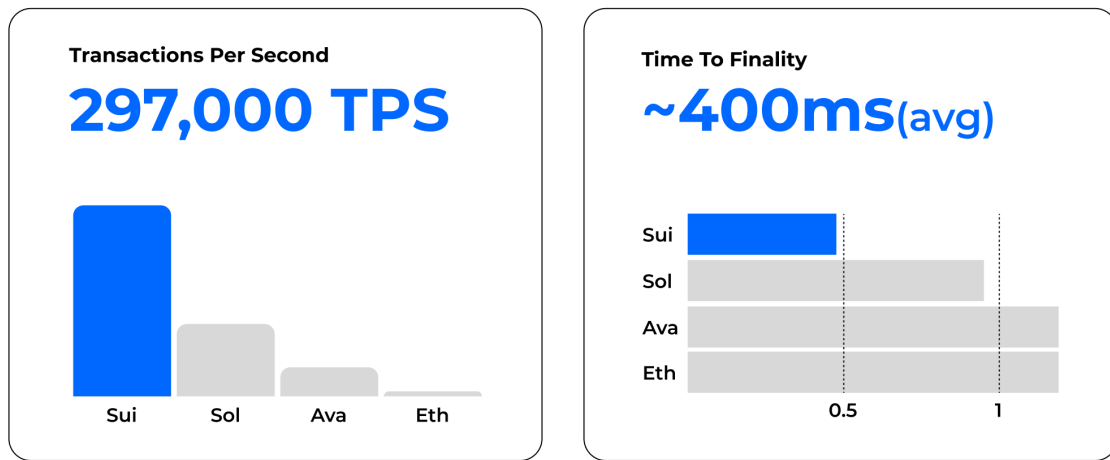
Instead of directly adopting the original Move language, Sui has deeply customized it and developed Sui Move to meet its specific needs. Sui Move introduces capability-enhanced structures that improve parallel processing, making transactions more efficient. At the same time, Sui Move simplifies the type system, reducing the learning curve for developers and enhancing development efficiency. Additionally, Sui Move natively supports a variety of assets and allows flexible combinations, simplifying asset management.

3.3 Network Performance

Since its mainnet launch in 2023, the Sui network has experienced only one validator node failure, which caused a brief network interruption. Apart from this, the network has remained stable. By the end of 2024, over 500 active nodes were part of the Sui ecosystem, with 108 active nodes spread across the globe, ensuring decentralization and availability. The transaction confirmation speed is claimed to be significantly faster than the industry average, with the fastest transactions taking just 400 milliseconds, and peak TPS reaching 297,000 (theoretical value, see Figure 4). By the end of 2024, the average TPS was about 60 (actual TPS in operation, see

Figure 5), with a historical peak of 827 TPS on October 8, 2024.

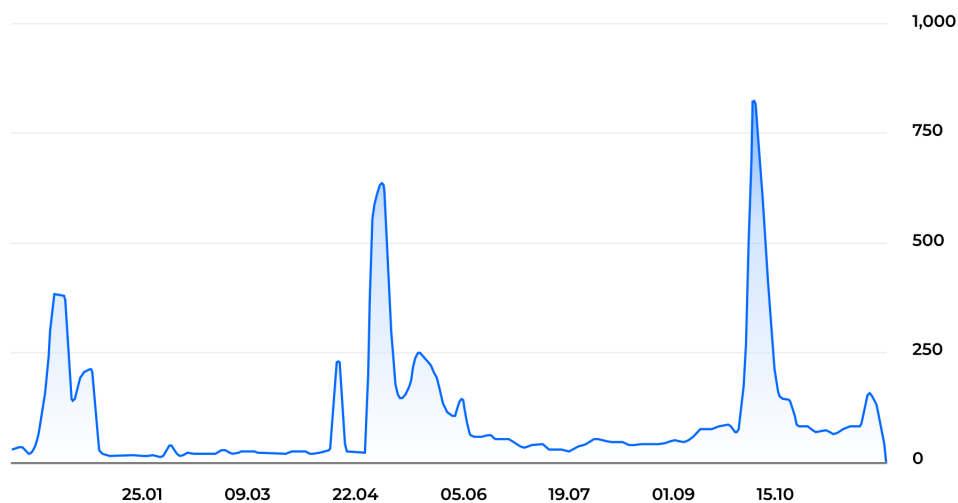
Figure 4: Sui's TPS Capacity and Network Confirmation Time



Gate Research, Data from: Sui.io

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Figure 5: Average TPS on Sui in 2024



Gate Research, Data from: Suiscan

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Transaction speed and cost are key competitive factors for high-performance public blockchains. While microsecond-level differences in speed may not be noticeable to everyday users, low latency is critical for an improved user experience. In terms of transaction costs, Sui's gas fees are relatively high for certain transactions compared to other high-performance blockchains, with the average gas fee being around \$0.014 per transaction (Figure 6 shows the average gas fee for Sui in 2024 was 0.003364127 SUI, with the SUI price around \$4.2).

Figure 6: Average Gas Fees on Sui in 2024



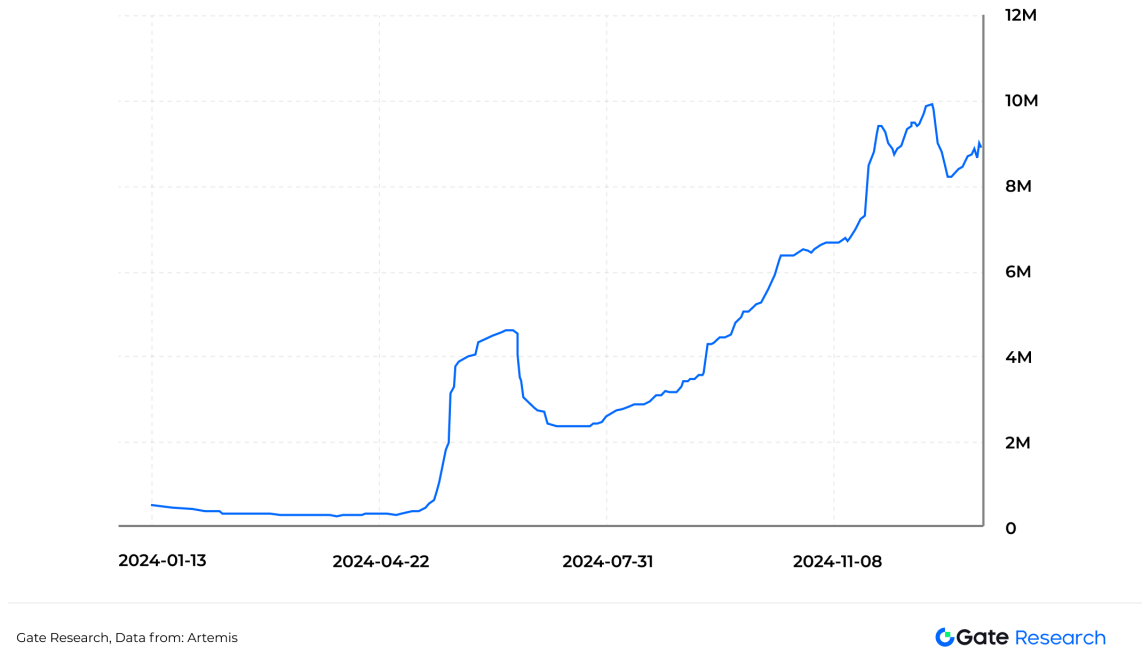
Gate Research, Data from: Suiscan

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3.4 Network Activity Data

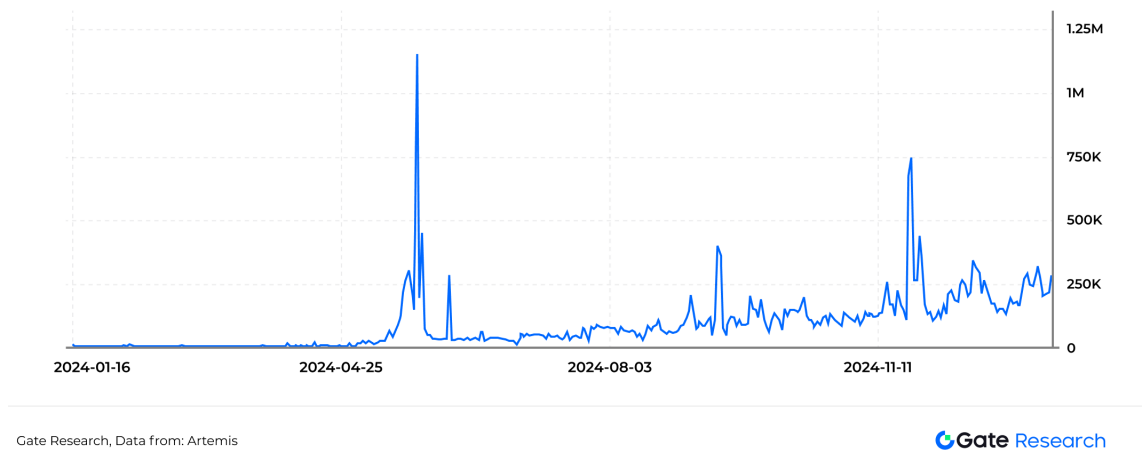
Since May 2024, the number of monthly active users on the Sui network has steadily increased, exceeding 8.3 million by year-end. During May and June, the SPAM transaction mining project, launched by Polymedia founder Juzy, drove a significant rise in active addresses due to its popularity. Although the growth rate slowed afterward, the overall trend remained positive. In September 2024, with the launch of the Grayscale Sui Trust, the deployment of USDC, and the announcement of CCTP integration, active addresses spiked again, reaching a peak of 9.9 million in December, a 300-fold increase from the start of the year. This indicates a steadily growing Sui ecosystem that is attracting more users.

Figure 7: Monthly Active Addresses on Sui in 2024



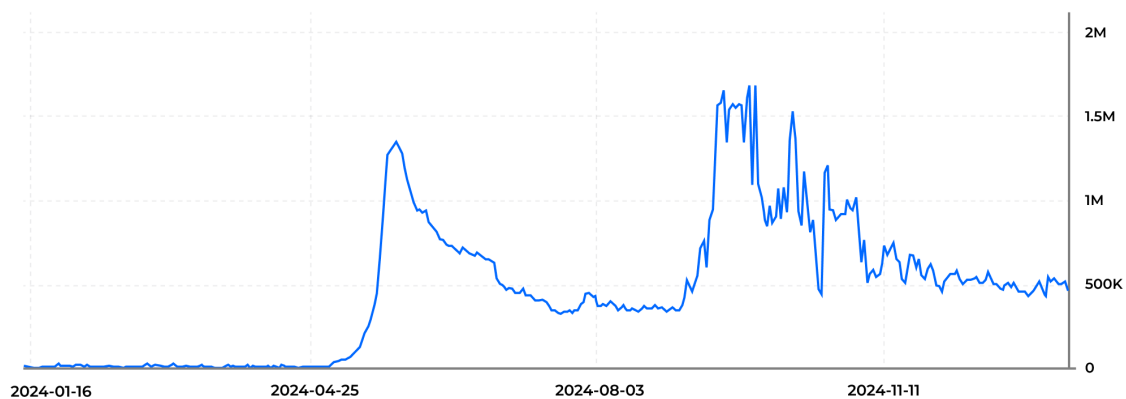
The number of newly created wallets on the Sui network has also shown a continuous upward trend, with several spikes. For instance, on May 23, 2024, a single-day record was set with over 1.2 million new wallets created. This rapid growth was closely tied to the popularity of the SPAM project and the migration of major applications such as the video + live-streaming social platform FanTV. While the growth rate slowed in the following months, the number of new wallets remained high, reaching 750,000 on November 23, 2024. Recently, the Sui network's daily new wallet creation has stabilized above 200,000. Although the daily new wallet creation numbers were relatively low at the beginning of 2024, the ongoing expansion of the ecosystem has enhanced its attractiveness to new users, demonstrating strong growth potential.

Figure 8: Daily New Wallet Addresses on Sui in 2024



By analyzing the number of active addresses interacting daily with protocols or on-chain marked contracts, it is apparent that in early 2024, the daily active address numbers were low, indicating that the Sui ecosystem had not yet attracted many stable daily active users at the early stage. Similar to the trends for monthly active addresses and new wallet addresses, the number of active addresses interacting daily began to rise sharply from May. However, after peaking at 1.3 million on May 25, it started to decline. Later, from September to November, with the rise of meme coins, the number of active interacting addresses saw a brief recovery, but it also began to decline afterward. This suggests that early adopters' activity levels were falling, and the growth rate of new users was not meeting expectations. It also shows that market trends, such as the rise of meme coins, significantly impacted user activity.

Figure 9: Daily Active Wallet Addresses Interacting on Sui in 2024



Gate Research, Data from: Artemis

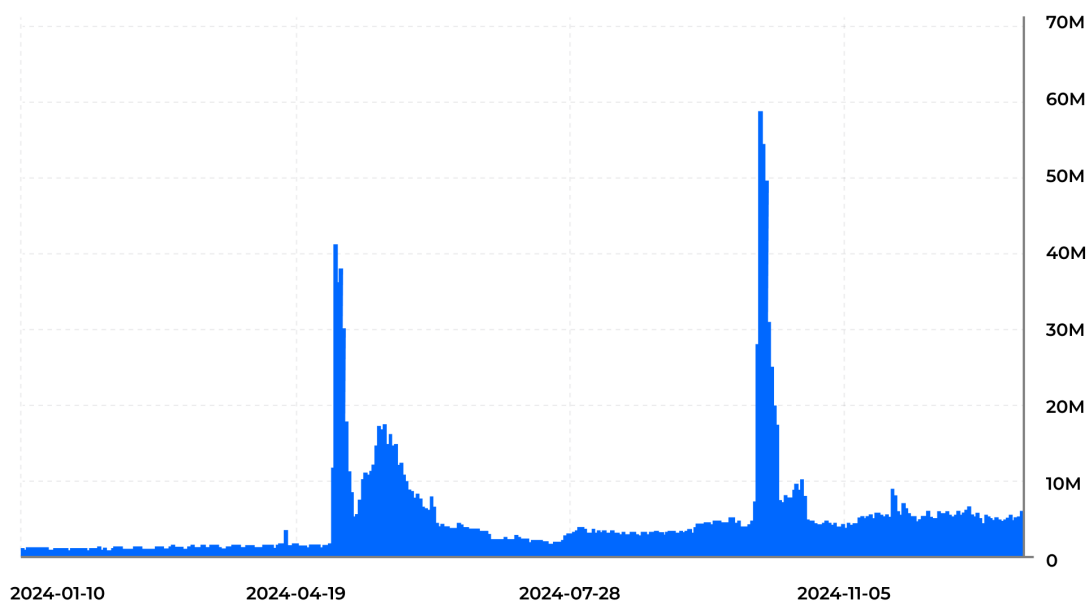
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The daily number of transactions on the Sui network has fluctuated significantly, with clear peaks. On May 3, 2024, the transaction count surged to a peak of 41 million due to the incentive mechanisms and token-unlocking events of the SPAM project. SPAM Sui incentivized users with SPAM tokens to send massive amounts of transactions on the Sui network, leading to a spike in transaction numbers. However, as the token price dropped and market enthusiasm waned, SPAM Sui's transaction activity gradually decreased, bringing Sui's overall transaction volume down.

Later, another mining project in the Sui ecosystem, FomoSUI, launched on October 4, 2024, quickly boosted daily transactions, which reached a new peak of 58.4 million on October 5, 2024. However, like the SPAM Sui project, FomoSUI exhibited the "mining-sell-off" cycle, and due to limited investment from the project team, its token price and transaction volume fluctuated sharply, causing Sui's transaction volume to decline again.

It is evident that the transaction volume on the Sui network is significantly impacted by speculative activities within the ecosystem. In the short term, these activities can rapidly boost transaction numbers, but in the long term, speculative actions lacking practical application value cannot sustain the network's growth. Sui must attract more projects with real-world applications to achieve stable transaction growth.

Figure 10: Daily Transactions on Sui in 2024

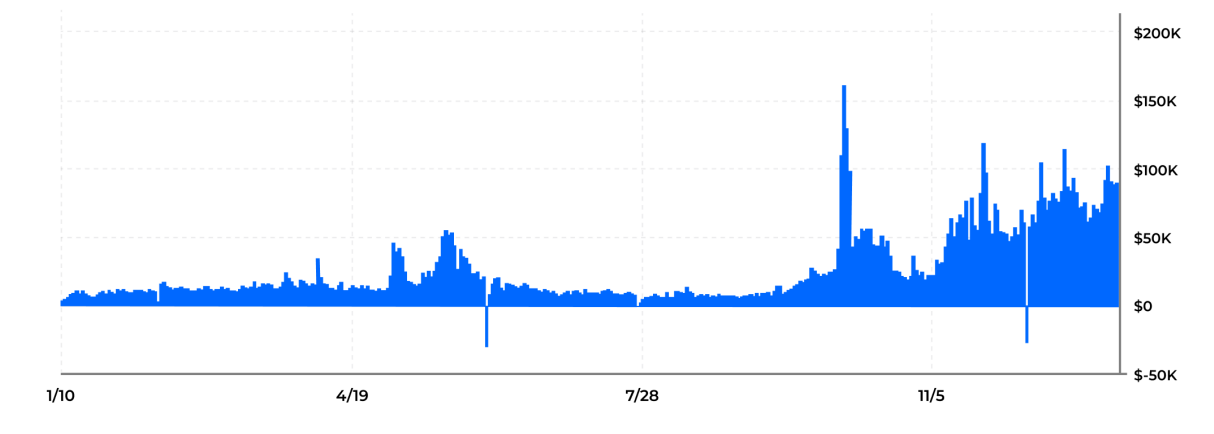


Gate Research, Data from: Artemis

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With increased network activity and transactions, Sui's gas fee revenue has shown an overall upward trend. Gas fees reached a significant peak in October 2024. Sui's fees primarily consist of gas costs generated by transactions, including computation and non-refundable storage fees, and these fees are ultimately distributed to network validators. In May 2024, as transaction activity surged, Sui's quarterly total fee reached \$1.8 million, setting a new record at that time. The meme coin boom further boosted Sui's transaction volume, causing the total fee to peak in October, with the single-day fee on October 5 reaching \$160,000, another historical high. While Sui's total fee is still lower than Ethereum and Solana, its growth potential cannot be overlooked.

Figure 11: Daily Gas Fees on Sui in 2024



Gate Research, Data from: Artemis

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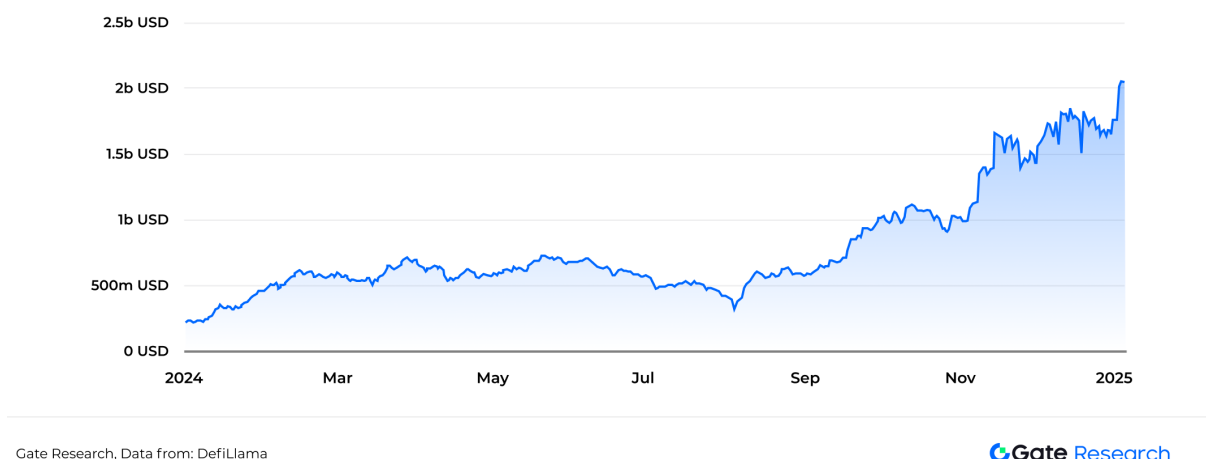
3.5 On-Chain Capital Data

The total value locked (TVL) on Sui saw significant growth in 2024, especially in the year's second half. By mid-November, TVL reached a historic high close to \$2.3 billion. However, by the end of 2024, TVL had fallen back to around \$1.7 billion. This means that within just three months, TVL surged by nearly \$2 billion from less than \$400 million in August, followed by a subsequent decline. The Sui ecosystem, after experiencing rapid expansion, entered a phase of adjustment.

According to DefiLlama data, there are currently seven protocols in the Sui ecosystem with a TVL exceeding \$100 million. These include:

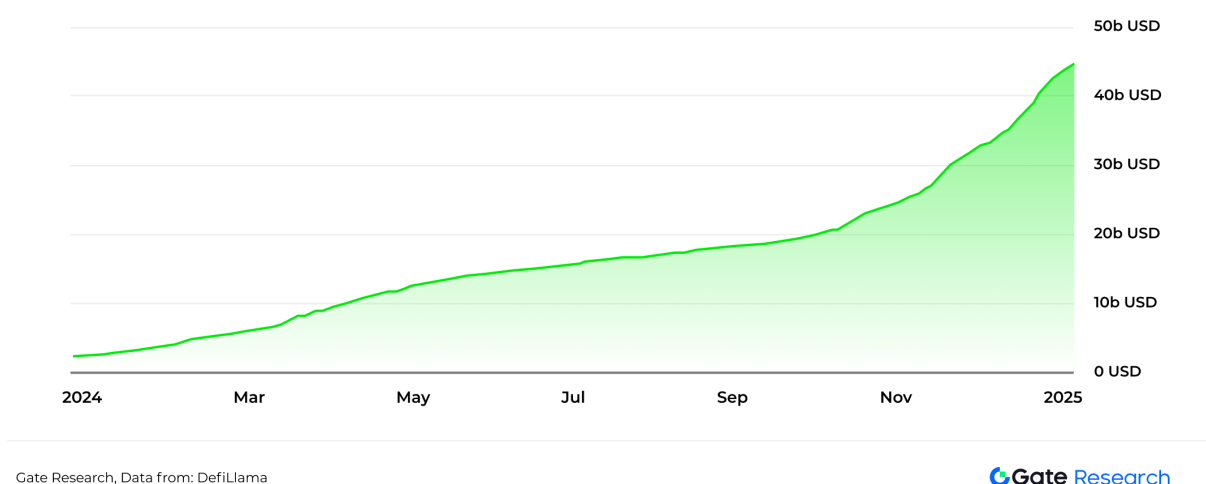
- **Suilend** (the first project outside of Solana's ecosystem),
- **Navi** (the largest lending platform in the Sui ecosystem),
- **Haedal Protocol** (liquid staking protocol),
- **Cetus** (decentralized exchange),
- **Scallop** (another key lending protocol),
- **Bluefin** (a decentralized spot and derivatives trading platform),
- **Aftermath Finance** (liquid staking protocol).

Figure 12: Total Value Locked (TVL) on Sui in 2024



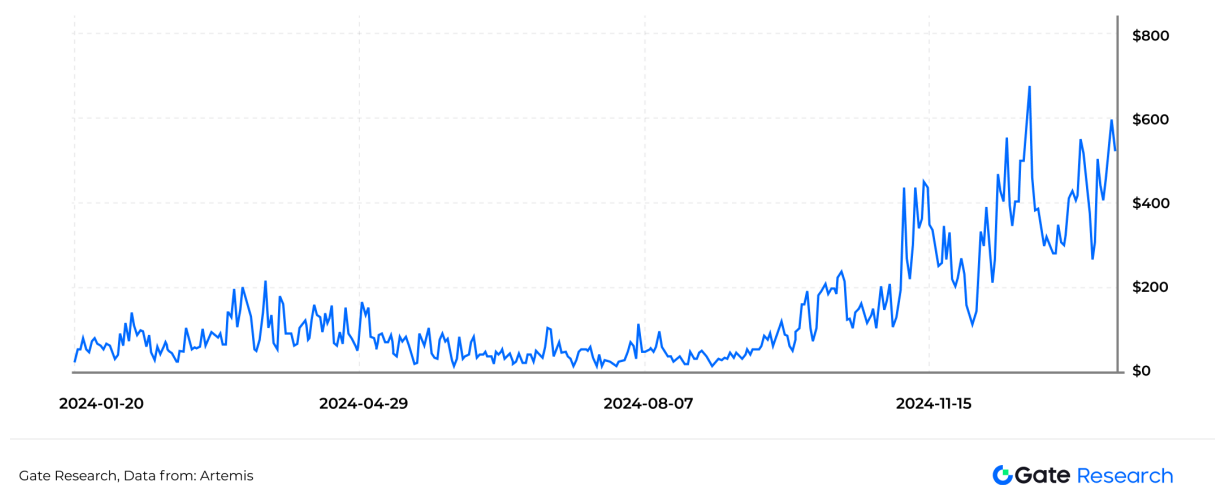
Regarding transaction volume, Sui saw significant growth in 2024, particularly in the second half of the year. Starting from about \$2 billion at the beginning of the year, the transaction volume quickly grew to approximately \$44 billion by the end of the year. This growth was driven by projects like SPAM and FomoSUI, as well as the dramatic rise in the price of SUI tokens (as discussed later), alongside the meme coin craze. In May 2024, SPAM, as one of the most popular projects on-chain, greatly contributed to the transaction volume on Sui. As SPAM's popularity declined, other meme tokens such as HIPPO, BLUB, FUD, AAA, and LOOPY performed well, with HIPPO notably driving significant wealth generation, which continued to push the transaction volume higher on the Sui chain.

Figure 13: Accumulated Transaction Volume on Sui in 2024



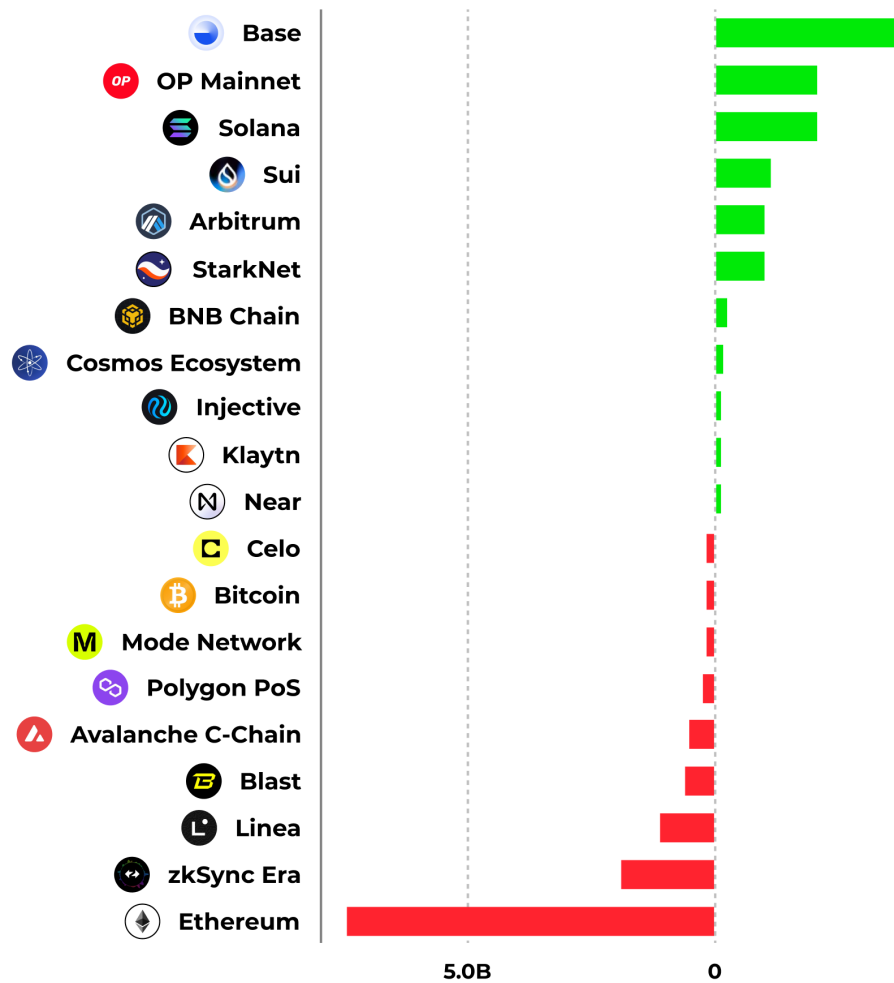
Sui's decentralized exchange (DEX) transaction volume also saw explosive growth in 2024. Daily trading volume surged from about \$50 million at the beginning of the year to a peak of \$674 million on December 20, an over tenfold increase. Throughout the year, the total DEX transaction volume exceeded \$42 billion, reflecting the vibrant development of the Sui ecosystem. Among the DEX platforms, Cetus led the way, contributing \$27.4 billion in transaction volume, which accounted for over 80% of the total Sui DEX transaction volume by the end of the year. While Sui's DEX transaction volume still lags behind major public chains like Ethereum and Solana, it surged from 11th place in 2023 to 9th place in 2024, showing rapid growth.

Figure 14: Daily DEX Transaction Volume on Sui in 2024



Regarding capital inflows, by January 10, 2025, Sui had seen a net capital inflow of \$1.16 billion over the past year, with a total of more than \$3.1 billion in inflows. Among all the public blockchains compared, Sui ranked 4th in net capital inflows, only behind Base, Optimism (OP), and Solana (SOL). Since August 2024, more than \$930 million in funds have been transferred into Sui via the Wormhole cross-chain bridge. This trend reflects the growing appeal of Sui in the cross-chain ecosystem and underscores its importance in the multi-chain landscape.

Figure 15: Net Capital Inflow Ranking of Public Blockchains in the Past Year (as of January 10, 2025)

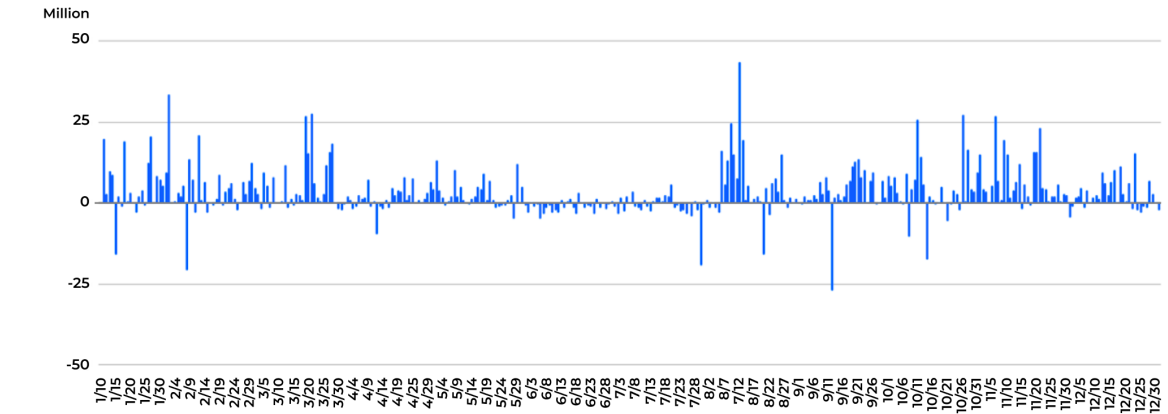


Gate Research, Data from: Artemis

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On a daily basis, Sui's capital inflow exhibited an upward trend over the past year, with significant spikes occurring since August. Daily inflows sometimes surpassed Ethereum (ETH) and Avalanche (AVAX). Two significant peaks occurred in mid-August and late October. On August 12, 2024, a record-high single-day net inflow of \$43 million was recorded. This surge was likely linked to the launch of the Grayscale Sui Trust in August, which may have acted as a catalyst for the rise in the price of SUI tokens, thereby attracting more capital into the Sui network.

Figure 16: Daily Capital Inflows into Sui in 2024

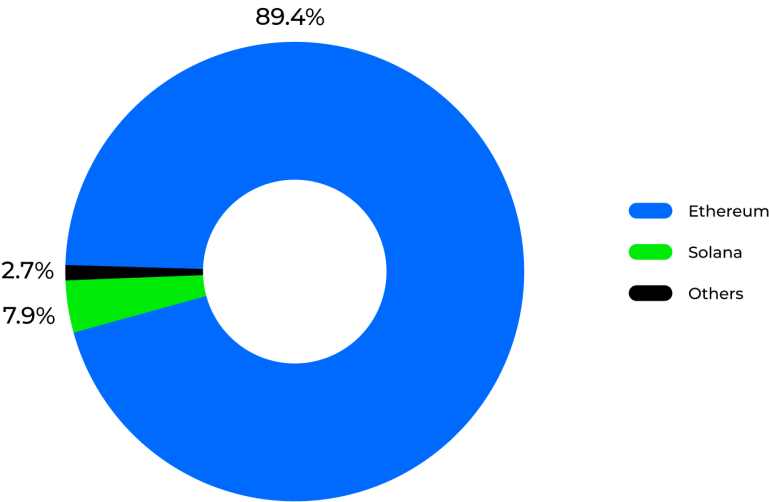


Gate Research, Data from: Artemis

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Regarding sources of capital inflow, Ethereum was the largest source of funds for Sui, accounting for approximately 89.4% of all funds flowing into the ecosystem over the past year. This highlights a growing trend of Ethereum users migrating to Sui in search of more efficient and cost-effective on-chain experiences. Solana was the second-largest source, contributing around 7.9%. The Sui Bridge launched in September 2024, providing a native cross-chain bridge between Sui and Ethereum, further facilitating this capital flow. Since its launch, the daily volume of Ethereum (ETH) transferred to Sui via this bridge has steadily increased, gradually surpassing Wormhole.

Figure 17: Sources of Sui's Capital Inflows in the Past Year (as of January 10, 2025)



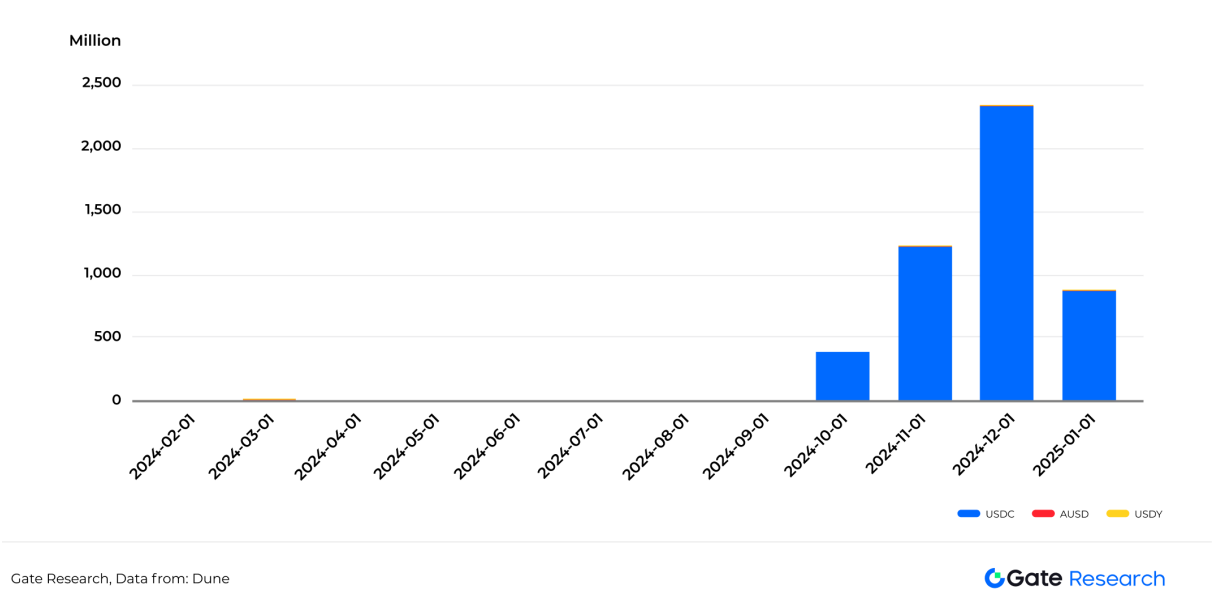
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The expansion of stablecoins also contributed significantly to the capital inflows in the Sui ecosystem. On March 1, Ondo Finance launched the USDY stablecoin on Sui, marking the first USD-pegged token to be introduced on the platform, signaling financial institutions’ trust in Sui. On September 5, Agora launched the AUSD stablecoin on Sui, further expanding the stablecoin ecosystem and providing more options for DeFi users. However, the total transaction volume for USDY and AUSD remained relatively small, ranging from \$300,000 to \$500,000 per month.

On October 8, 2024, Circle launched its native USDC on Sui, allowing users to use the token directly without going through a cross-chain bridge. Within just two months, the circulating supply of native USDC on Sui surpassed \$100 million by November 7, and by mid-November, the transaction volume surged past \$1.2 billion. By the end of December, total USDC transaction volume on Sui had reached \$2.3 billion, reflecting the rapid growth and strong market demand for the token. USDY and AUSD also saw some growth, with monthly transaction volumes exceeding \$3 million.

Figure 18: Monthly Stablecoin Transaction Volume on Sui in 2024



As of the end of 2024, the total market capitalization of stablecoins on Sui stood at approximately \$370 million. After August 6, the market capitalization of stablecoins saw rapid growth, peaking at nearly \$440 million in October. While there was some decline afterward, the total value remained relatively high. USDC continued to dominate the market, holding more than half of the stablecoin market share, emphasizing its importance in the Sui ecosystem. Despite recent market fluctuations, the resilience of Sui’s stablecoin ecosystem has shown promise, providing a solid foundation for DeFi applications.

Figure 19: Stablecoin Market Capitalization on Sui in 2024



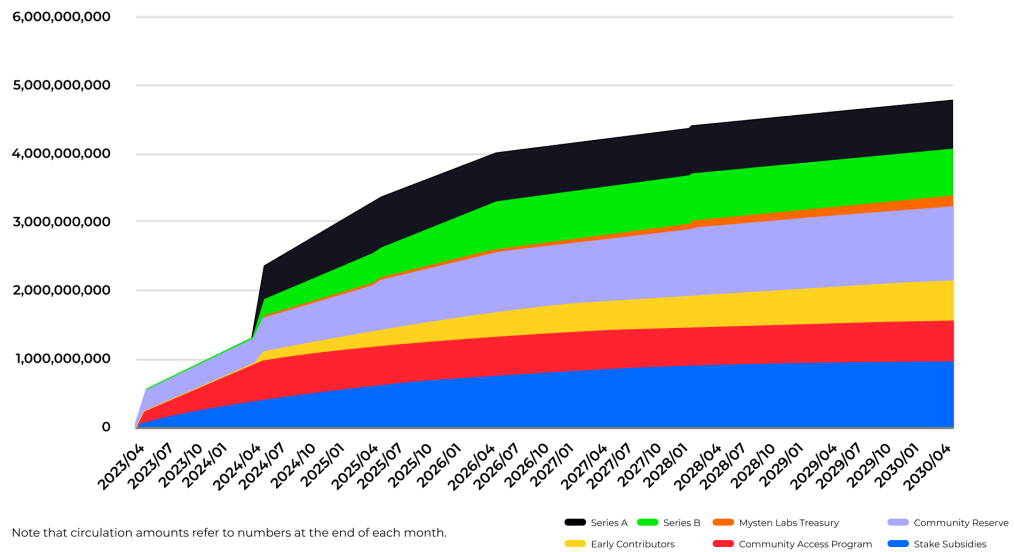
Gate Research, Data from: DefiLlama

Gate Research

3.6 SUI Token Performance

Sui's design excels in many areas, but the community often sees its tokenomics as having some shortcomings. Although SUI claims a total supply of 10 billion tokens, as much as 52% of these tokens remain undistributed until 2030. Specifically, the distribution of SUI tokens is as follows: 50% are allocated to the community reserve managed by the foundation, 20% to early contributors, 14% to investors, 10% to the Mysten Labs treasury, and 6% to community access programs and application testers. These tokens are primarily used for network staking, transaction fees, storage fees, governance voting, and SUI native asset trading. However, as time passes, these undistributed tokens will gradually unlock. With insufficient demand, such a large token supply could lead to continuous sell pressure on the SUI token.

Figure 20: SUI Token Unlocking Timeline

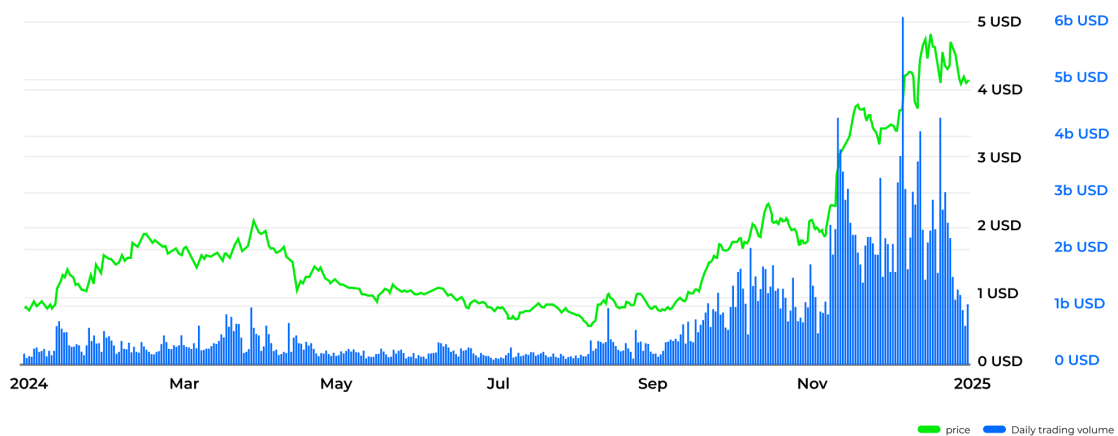


Gate Research, Data from: Sui

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Although Sui's token economics model has faced some controversy, the rapid development of the Sui network and ecosystem has driven the SUI price to rebound strongly since hitting a low of \$0.4625 on August 5. The trading volume also saw a substantial increase. Particularly after November, the price of SUI surged, reaching an all-time high (ATH) of \$5.35 on January 5, 2025, with a market cap surpassing \$1.59 billion and daily trading volume exceeding \$2.2 billion. Since its launch, the price of SUI has increased by over 300%. The launch of the SUI Trust Fund by Grayscale on August 7, along with the subsequent meme coin craze, was likely a major factor behind SUI's strong rebound.

Figure 21: SUI Token Price and Daily Trading Volume



Gate Research, Data from: DefiLlama

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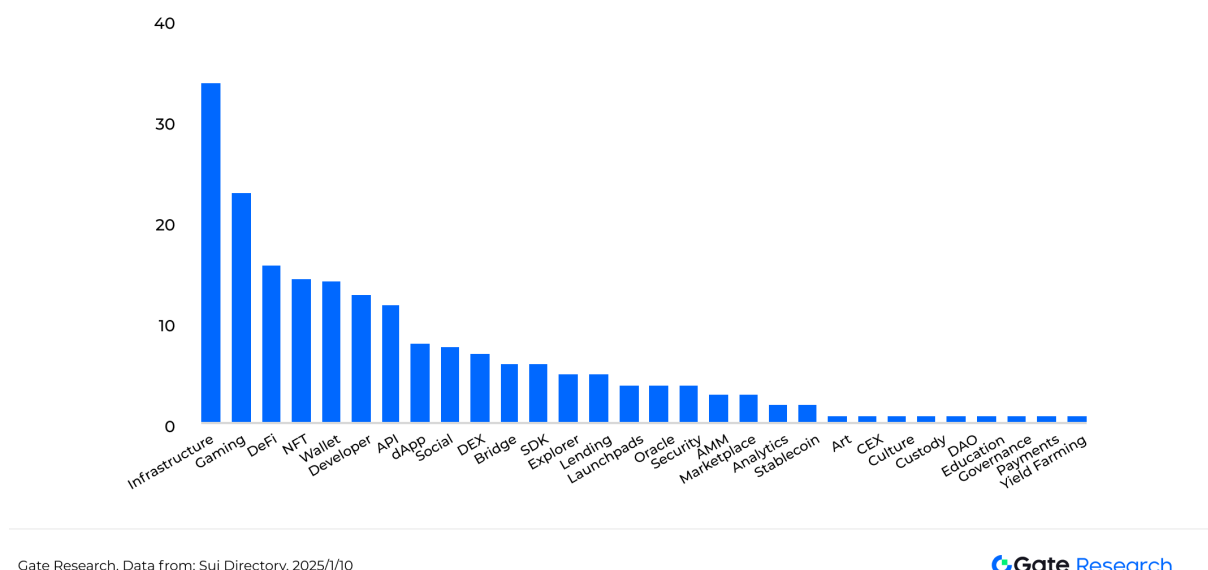
The development of the Sui ecosystem and the rise in the price of SUI have been complementary. On one hand, the price increase of SUI has driven the development of the entire ecosystem. On the other hand, the prosperity of the ecosystem has further boosted the growth of SUI's price. As the price surged, the Sui ecosystem also made significant progress. On September 2, 2024, Sui launched its handheld gaming device, SuiPlay0X1, further expanding its use cases. Additionally, the launch of the Grayscale SUI Trust Fund by Grayscale on September 12 brought more institutional funds to SUI. On October 8, USDC officially launched on the Sui mainnet, injecting new vitality into the ecosystem. Sui Bridge also went live on October 1, enhancing interoperability between Sui and other blockchains.

It should be noted that the tokenomics of Sui also pose potential risks to the market. With a large amount of undistributed tokens set to enter the market, there could be sell-off pressure, leading to a price drop. Historical experience suggests that token unlocks are often a key factor in triggering market corrections. In addition, the high liquidity mining rewards on the Sui network have attracted significant short-term speculative capital. While this has increased on-chain activity in the short term, the stability of this model remains uncertain. If market sentiment changes or yields decline, this capital could quickly exit, leading to significant fluctuations in on-chain liquidity.

3.7 Ecosystem Development

According to statistics from the Sui Directory, the Sui ecosystem currently hosts 86 projects. Apart from infrastructure, most of these projects are in gaming (23 projects) and DeFi (16 projects). However, based on CoinGecko's market cap rankings, the Sui ecosystem still has a relatively small market cap. Among the top 500 projects, besides SUI and stablecoins, only DeepBook and Cetus are present. In the top 1,000, aside from stablecoins, most of the prominent projects are in the Meme and DeFi sectors, such as SEND, HIPPO, LOFI, and NAVX. This suggests that while Sui has many projects, market recognition remains concentrated in a few leading ones, with relatively limited investment opportunities.

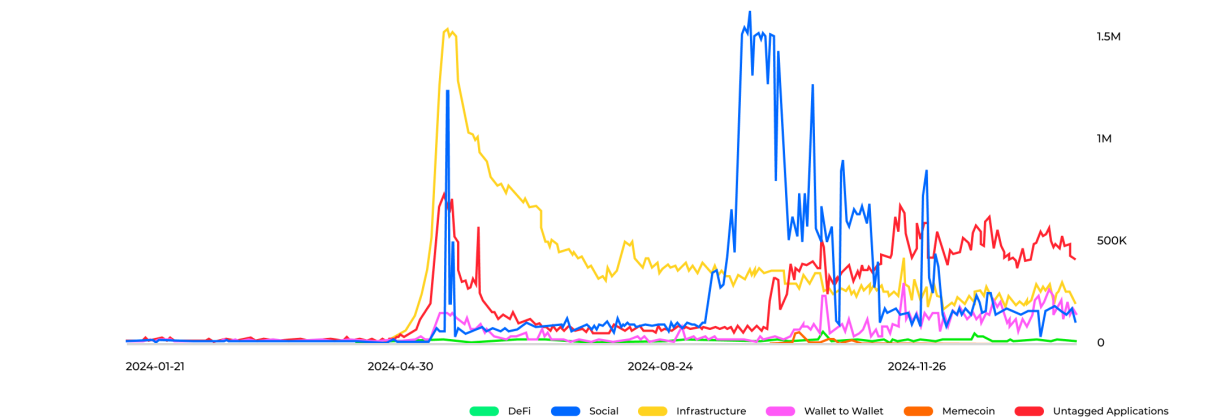
Figure 22: Number of Projects in Different Sui Ecosystem Sectors



According to Artemis data, since September, Sui chain users have clearly preferred SocialFi, with this sector once making up over 50% of the activity. However, over time, activity in SocialFi has dropped, and by the end of the year, it accounted for less than 20%. RECRD, a short-video app using an ad-sharing model, attracted a large number of creators, with daily active users peaking at 370,000, driving a surge in on-chain activity. However, this model, heavily reliant on advertising revenue, carries risks. If ad revenues fall short of expectations, user activity can decline. Long-term stability of this model is uncertain, and there's a high risk of user attrition.

Expanding use cases beyond SocialFi is a key challenge for Sui's ecosystem development. While meme coins briefly boosted activity on Sui, this interest wasn't sustained. In October 2024, meme coins on Sui attracted over 500,000 daily active users, but the hype quickly faded, leaving the meme sector on Sui relatively weak.

Figure 23: Daily Active Users in Different Sui Ecosystem Sectors



Gate Research, Data from: Artemis

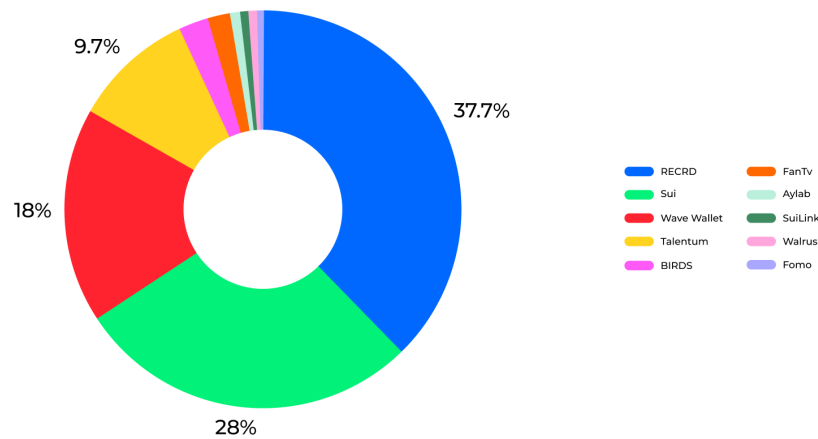
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As of January 20, 2025, RECRD leads the Sui ecosystem with 380,000 daily active users, making up 37.7% of the total user base. This TikTok-like short-video app has successfully attracted users with its innovative ad-sharing model. FanTV, another popular SocialFi project, ranks fourth with 97,000 daily active users. In gaming, the Telegram-based game Birds has over 180,000 daily active users, ranking third, while GameFi project Aylab ranks fifth. The Wave Wallet app, popular among users, is closely tied to Telegram, with over 280,000 daily active users, representing 28% of the total user base. Interestingly, most of Sui's popular GameFi projects are built within the Telegram ecosystem.

Despite the popularity of DApps like RECRD, BIRDS, and FanTV, these projects aren't widely discussed in the market, and the true user numbers remain uncertain. On-chain data shows that Sui's DeFi ecosystem hasn't yet become dominant. Although Cetus is the largest decentralized exchange (DEX) on Sui, its active user base has not cracked the top 10 in the industry. Similarly, Movepump, the meme coin launch platform on Sui, ranks low. By the end of 2024, the overall user activity in DeFi on Sui was under 1%, which is far behind ecosystems like Ethereum and Solana that are DeFi-centric. This signals that Sui's DeFi ecosystem development is lagging. Currently, Sui's user base is mainly in social and gaming sectors, with DeFi applications seeing little engagement. This raises concerns about the authenticity and activity levels of Sui's users.

It's important to note that while Sui's meme ecosystem attracted users temporarily, only a few projects like HIPPO have reached any significant scale. From a market standpoint, meme ecosystems help engage users and energize communities, but Sui's weak position in the meme space could limit its overall ecosystem growth.

Figure 24: Daily Active User Rankings for Sui Ecosystem Projects in the Last Year (As of January 20, 2025)



Gate Research, Data from: Artemis

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In conclusion, while Sui shows potential for innovation in areas like SocialFi and GameFi, its controversial tokenomics and the uncertainty caused by market speculation still pose challenges for ecosystem development. To ensure long-term success, the Sui ecosystem must reduce its reliance on short-term speculative funds and transition to a more sustainable growth model.

4 Aptos Ecosystem Analysis

4.1 Background and Introduction

Aptos is an emerging high-performance Layer 1 blockchain created by core members of the former Meta Diem team. Aptos aims to build a secure, scalable, and upgradable blockchain platform through technologies like the Move programming language and the DiemBFT consensus algorithm. Aptos claims that compared to other public blockchains, it performs exceptionally well and can support high-throughput transactions.

Aptos was designed to improve the user experience for Web3, making it more accessible to ordinary users. Its core advantages include:

- **Security:** The Move programming language provides stronger security measures, reducing the risk of vulnerabilities in smart contracts.
- **Scalability:** Aptos can handle a large volume of transactions, meeting the growing demands of Web3 applications.

- **Upgradability:** The modular design of Aptos allows it to adapt quickly to evolving technologies and market demands.

Like Sui, most of Aptos' core team members come from the Meta Diem project. Co-founders Avery Ching and Mo Shaikh were key figures in Diem and Novi. Additionally, developers and researchers like Alden Hu were also involved in the development of Diem and Novi. Shaikh brings investment experience as a product scaling expert, while Ching is an experienced software engineer. When the Diem project was terminated, they founded Aptos Labs with the mission of "building Layer-1 for everyone."

Aptos has completed six rounds of funding, including a \$350 million financing round before the mainnet launch in 2022, valuing the project at \$2.75 billion. The project has since secured additional strategic funding, although the amount has not been disclosed. Since its inception, Aptos has attracted significant backing from top investors, including Binance Labs, Dragonfly Capital, and A16z.

Figure 25: Key Milestones Leading to Aptos Mainnet Launch

Date	Event	Description
2022-01-31	Diem Foundation Dissolved, Aptos Team Acquires Its Technical Assets	The Diem stablecoin project, owned by Meta (formerly Facebook), was acquired by Silvergate.
2022-02-24	Aptos Public Launch	The Aptos project was officially launched, with most team members coming from Diem.
2022-03-15	First Round of Financing	Aptos completed \$200 million in financing.
2022-03-28	Binance Investment	Binance Labs announced a strategic investment in Aptos.
2022-05-14	Incentive Testnet Launched	Aptos launched the first phase of its incentive testnet.
2022-06-29	Ecosystem Funding Program	Aptos launched its ecosystem funding program.
2022-07-01	Incentive Testnet Phase 2	The second phase of Aptos' incentive testnet began accepting registrations.
2022-07-25	Second Round of Financing	Aptos completed a \$150 million new round of financing.
2022-08-19	Incentive Testnet Phase 3	The third phase of Aptos' incentive testnet began accepting registrations.
2022-10-18	Mainnet Launch	The Aptos mainnet was officially launched.
2022-10-18	Tokenomics Released	Aptos released its tokenomics model.
2022-10-19	Domain Name Service Launched	Aptos' official domain name service, Aptos Name Service, was launched.
2022-10-19	APT Token Open for Trading	Major centralized exchanges opened trading for APT tokens.
2023-03-11	Transaction Volume Surpassed	Aptos' on-chain transaction volume surpassed 100 million transactions.

4.2 Technical Features

Aptos strives to achieve high performance, security, and scalability through innovative technologies. Key innovations include the AptosBFTv4 consensus mechanism, which ensures the security and efficiency of the network; the Move programming language, which provides a secure environment for developing smart contracts; and the Block-STM parallel execution engine, which significantly boosts transaction processing efficiency.

4.2.1 Consensus Mechanism: AptosBFTv4

Aptos adopts the AptosBFTv4 consensus mechanism, an improvement on the HotStuff protocol. Compared to traditional consensus mechanisms, AptosBFTv4 offers superior performance and security. With the introduction of the Quorum Store, Aptos enhances transaction processing efficiency, increasing the system's TPS by several times.

- Quorum Store: This feature separates transaction data and the consensus process, reducing network bandwidth consumption and improving transaction processing efficiency.
- Reputation Mechanism: Validators' reputations are based not only on the amount of their staked tokens but also on the performance of their nodes, encouraging them to maintain high-quality service.

4.2.2 Smart Contract Language: Move

Similar to Sui, Aptos uses the Move programming language, which offers several key advantages:

- High Security: Move was designed with security as a priority, preventing common smart contract vulnerabilities through static type checks and a resource ownership model.
- Strong Composability: Move supports modular design, enabling developers to easily build complex smart contracts.
- Excellent Performance: The Move virtual machine is optimized for efficient smart contract execution.

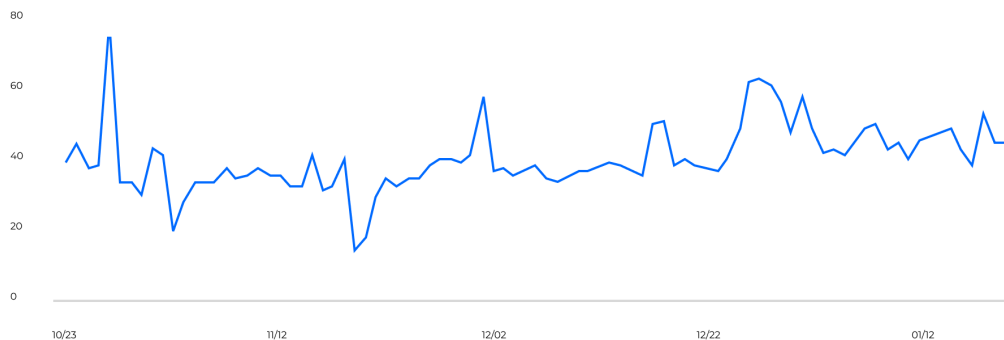
4.2.3 Parallel Execution Engine: Block-STM

Aptos utilizes the Block-STM (Software Transactional Memory) parallel execution engine. It achieves high concurrency by using optimistic concurrency control and predefined transaction sequencing, allowing Aptos to process many transactions while maintaining accuracy and consistency.

4.3 Network Performance

In October 2023, the Aptos network experienced a downtime lasting over 4 hours, raising concerns about the network's stability. Although the issue has been resolved, further verification of the network's long-term stability is still required. Since its mainnet launch, the number of Aptos validators has grown, reaching 151 by the end of 2024. In terms of performance, according to Chainspect data, the theoretical maximum TPS of Aptos can reach 160,000, with the highest recorded TPS in actual operation being 11,936. The daily TPS remains stable between 500 and 1000. At the beginning of the mainnet launch, Aptos set a record by processing over 300 million transactions in a single day, with peak TPS surpassing 11,000, and transaction latency reduced to under 1 second.

Figure 26: Aptos Network Real-time TPS

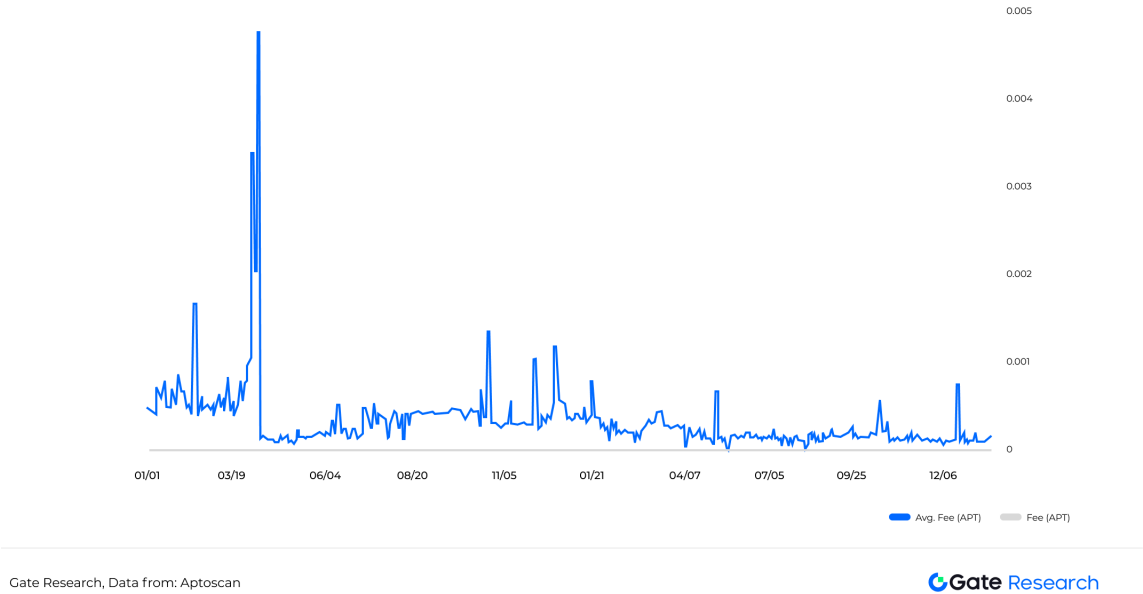


Gate Research, Data from: chainspect

Gate Research

In terms of transaction costs, Aptos has significantly reduced user transaction costs through a well-designed Gas fee mechanism. All interactions on Aptos incur lower fees than most public chains, with the average Gas fee per transaction being about \$0.00087 (as shown in the figure, the average Gas fee on Aptos is 0.0001 APT). The low transaction costs provide greater space for developing ecosystems like DeFi, attracting numerous developers and users.

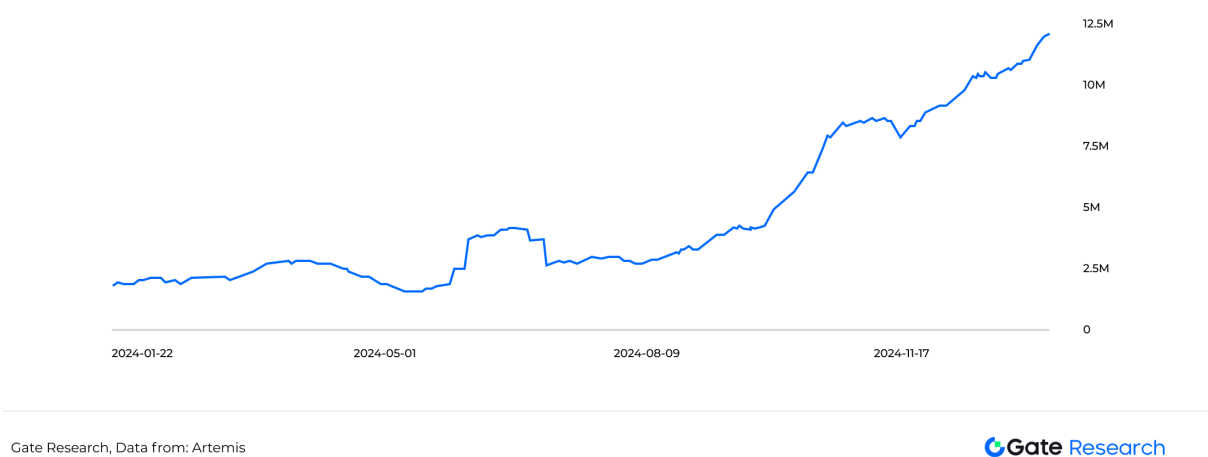
Figure 27: Aptos Network Average Gas Fee



4.4 Network Activity Data

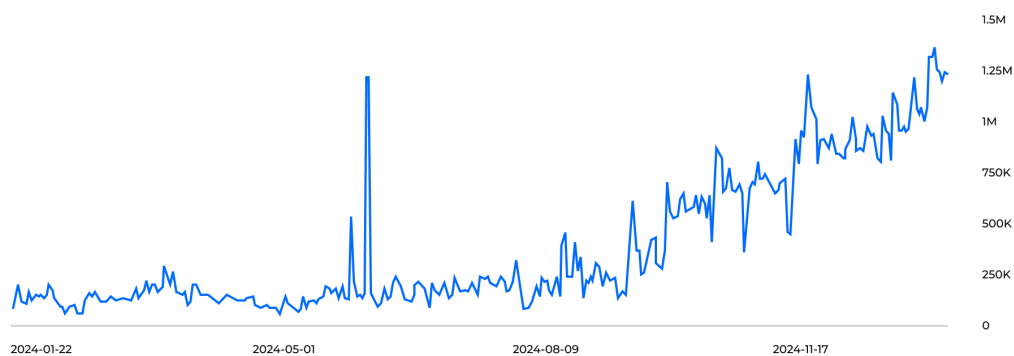
Since its launch, Aptos has seen rapid user growth. By the end of 2024, the platform had attracted over 40 million users. Monthly active addresses surged from 1 million in early 2024 to 10 million, marking a tenfold increase. On June 3, the network gained 1.5 million new users in a single day, reflecting strong growth. The launch of applications such as Tapos, Poseidon by Kade, and Nameless further fueled the growth of the Aptos ecosystem and drew many new users.

Figure 28: Aptos Monthly Active Addresses in 2024



Since early 2024, daily active addresses on Aptos have steadily increased, peaking at 1.2 million on June 8, setting a new record. Although there have been some fluctuations, the overall trend has been upward. By the third quarter, the average number of daily active addresses continued to rise and remained high, showing that Aptos has built a solid user base. Gaming has been one of the main drivers of this growth. Tapos’ “Click-to-Earn” game sparked a surge in users, and Kade’s Poseidon and Nameless apps, which combine blockchain with real-world activities, also attracted many new users. In addition to gaming, Aptos has continued to expand its ecosystem. The partnership with Tether introduced USDT into the ecosystem, boosting liquidity. Collaborations with Myco also brought in a significant number of potential users.

Figure 29: Aptos Daily Active Addresses in 2024

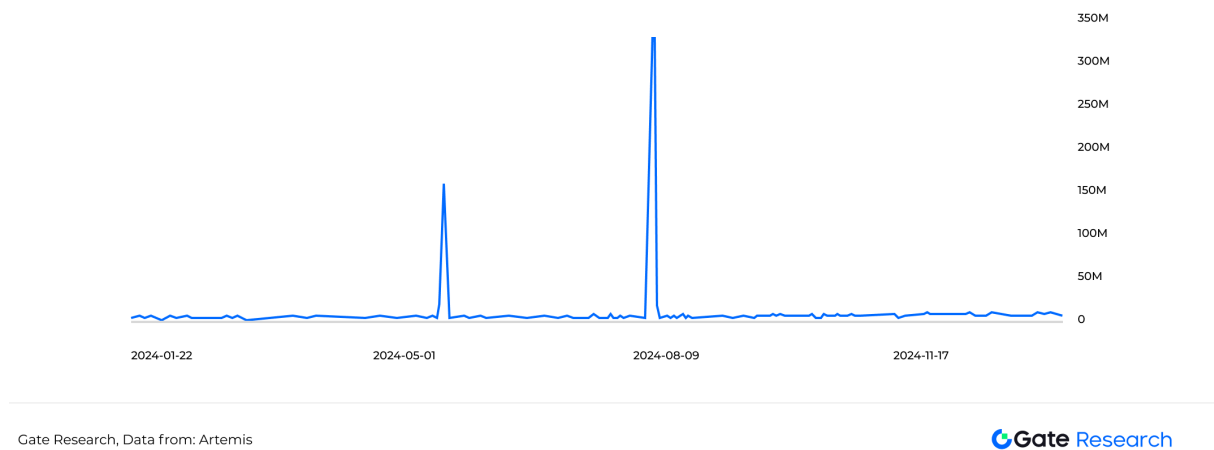


Gate Research, Data from: Artemis



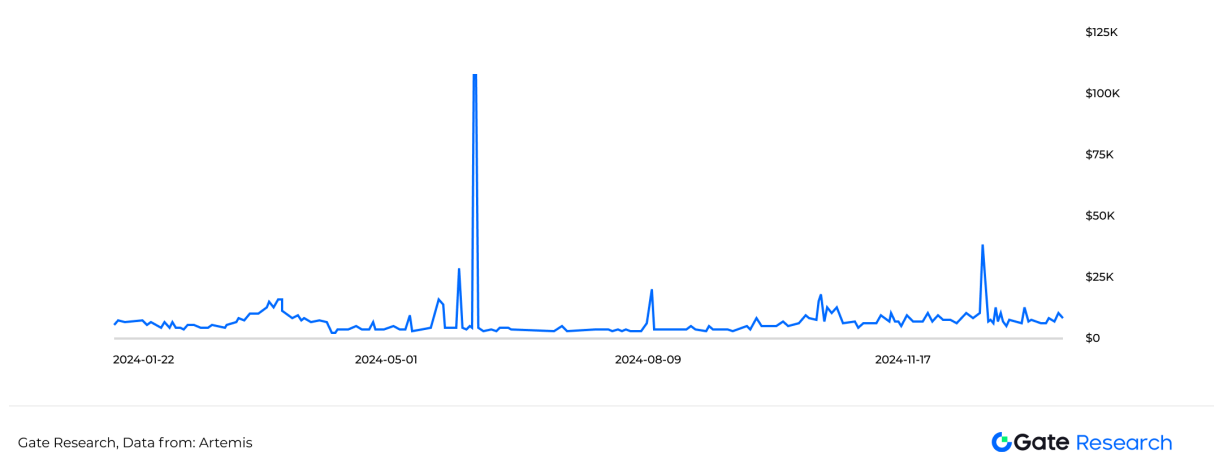
Unlike the daily active address trends, the number of daily transactions on Aptos experienced two major fluctuations in 2024. Due to the success of the Tapos click-game project, transaction numbers spiked in May and August 2024. On August 15, daily transactions hit 326 million, breaking the record of 156 million on May 25. Tapos’ first game, where users could scratch digital cats, generated one transaction per scratch. After the launch of this game, transaction volumes peaked between May 23 and May 26. Tapos announced a second game at the end of June, which launched in mid-August and helped Aptos surpass its previous record.

Figure 30: Aptos Daily Transaction Numbers in 2024



Aptos' network fee revenue fluctuated greatly throughout 2024. On June 8, when the daily active addresses peaked, the network's fee revenue also hit its highest point, reaching \$100,000 for the day. However, this was followed by a sharp decline, and fee revenue stabilized at a lower level of \$3,000 to \$6,000 daily. Although Tapos' games increased transaction activity, the low transaction costs meant that they didn't lead to a significant rise in fee revenue. Overall, Aptos has maintained low average transaction fees.

Figure 31: Aptos Daily Transaction Gas Fees in 2024



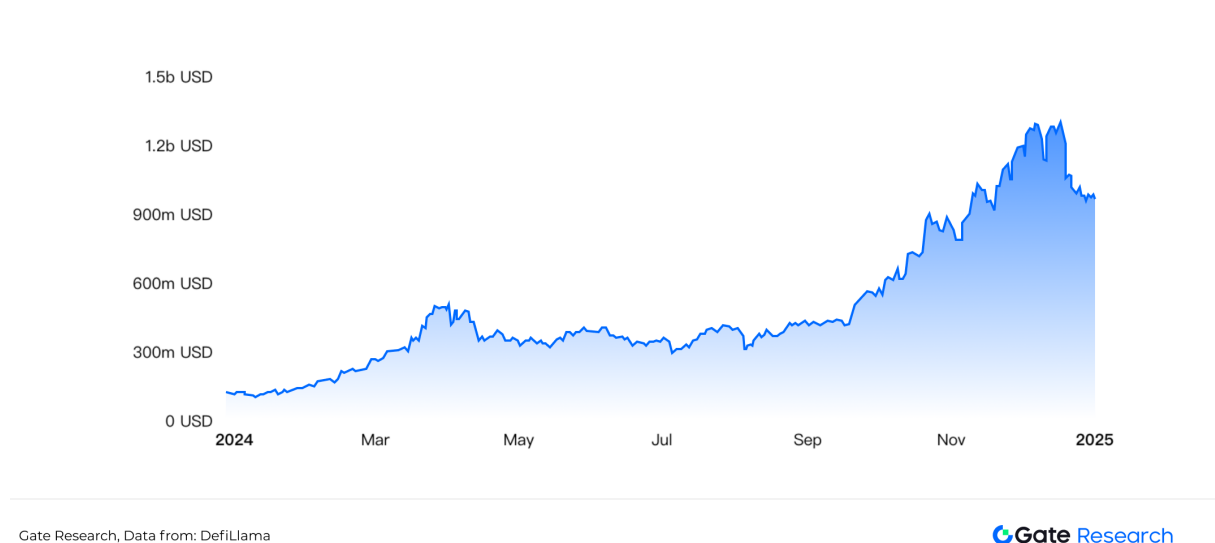
4.5 On-Chain Capital Data

Since the launch of the Aptos mainnet on October 17, 2022, the platform's Total Value Locked (TVL) has grown steadily. In 2024, TVL on Aptos saw a rapid increase, reaching an all-time high of \$1.3 billion in December, more than a tenfold increase from previous levels. Currently,

Aptos ranks 11th in TVL among all public chain ecosystems, with a relatively complete DeFi infrastructure now in place. One of the main drivers of this growth has been the launch of the Echo Protocol. Echo Lending attracted a TVL of 14.7 million APT at launch, and its current TVL has reached \$260 million, making it the second-largest DeFi protocol on Aptos, behind Aries Markets.

According to DefiLlama data, there are currently five protocols in the Aptos ecosystem with a TVL of over \$100 million: Aries Markets (the largest DeFi lending project on Aptos), Echo Protocol (Bitcoin re-staking protocol), Amnis Finance (Aptos liquidity staking protocol), Thala Labs (decentralized stablecoin and DeFi protocol), and Echelon Market (Aptos lending protocol).

Figure 32: Total Value Locked (TVL) on Aptos in 2024



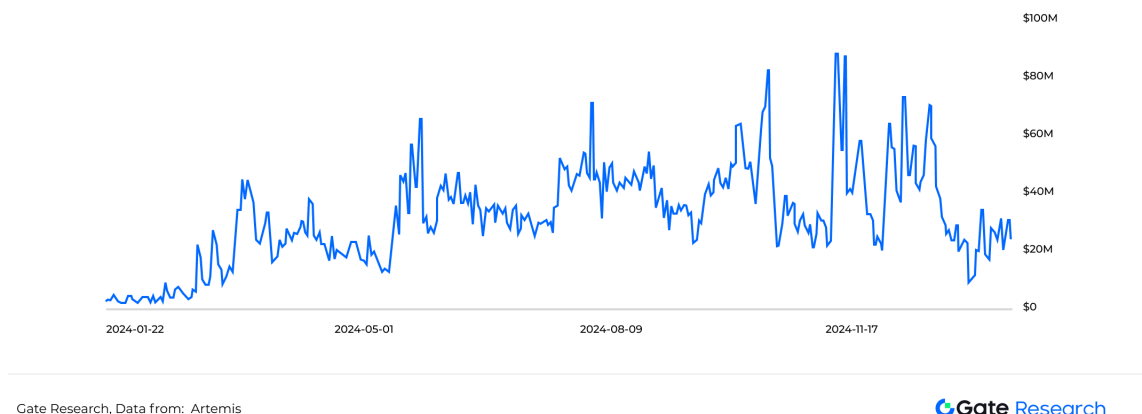
Aptos' on-chain transaction volume experienced explosive growth in 2024, rising from \$380 million at the beginning of the year to \$11.49 billion by the end of the year, nearly a 30-fold increase. In contrast, transaction volume in 2023 was relatively stable. This sharp rise indicates that Aptos entered a rapid growth phase in 2024. The success of the Aptos DeFi ecosystem played a key role in this expansion. The launch of new protocols such as Meso Finance and Superposition, combined with the ongoing growth of Aries Markets and Thala, has provided users with a diverse range of DeFi services, driving the growth of the entire ecosystem.

Figure 33: Cumulative Transaction Volume on Aptos in 2024



Transaction volume on Aptos DEXs showed significant fluctuations throughout 2024. Early in the year, volume was stable at around \$2 million daily. As time went on, transaction volume gradually increased, reaching a peak of \$64 million on May 28, driven by the Tapos game launch. In the second half of the year, transaction volume fluctuated more dramatically, hitting a high of \$86 million on November 12 before dropping back to around \$19 million at the end of the year, nearly eight times higher than the beginning of the year. Cellana Finance, as the largest DEX on Aptos, maintained daily trading volume above \$25 million until October 18. However, after a sharp drop in the amAPT-APT trading pair's volume, the daily transaction volume of Cellana Finance also declined to about \$2 million.

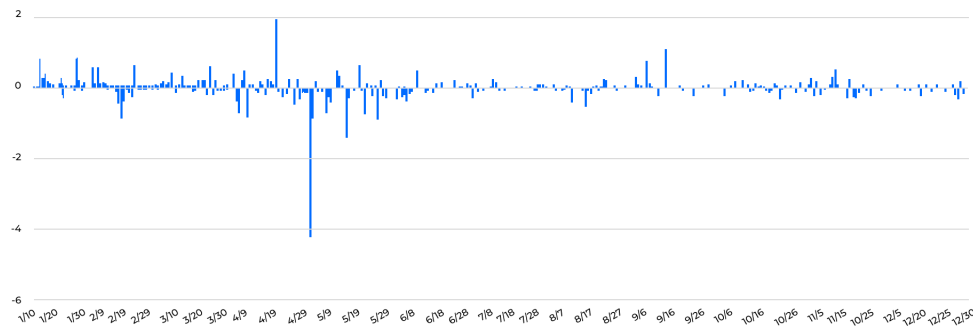
Figure 34: Daily DEX Transaction Volume on Aptos in 2024



Regarding capital inflows, as of January 10, 2025, Aptos had experienced a net outflow of around \$3.5 million in the past year. The total capital inflow was approximately \$90 million, while the outflow reached \$93 million. The most significant volatility in daily capital inflows occurred in Q2 2024, with the highest inflow of \$1.95 million on April 11 and the peak outflow of \$4.28 million on April 24. Afterward, capital inflows stabilized. This volatility was largely driven by the

Stargate Bridge on LayerZero. From March to May 2024, Stargate's incentives for Aptos activities accounted for 71% of the cross-chain transaction volume, amounting to \$1.2 billion. After the incentives ended, weekly transaction volume fell by over 90%.

Figure 35: Daily Capital Inflows to Aptos in 2024

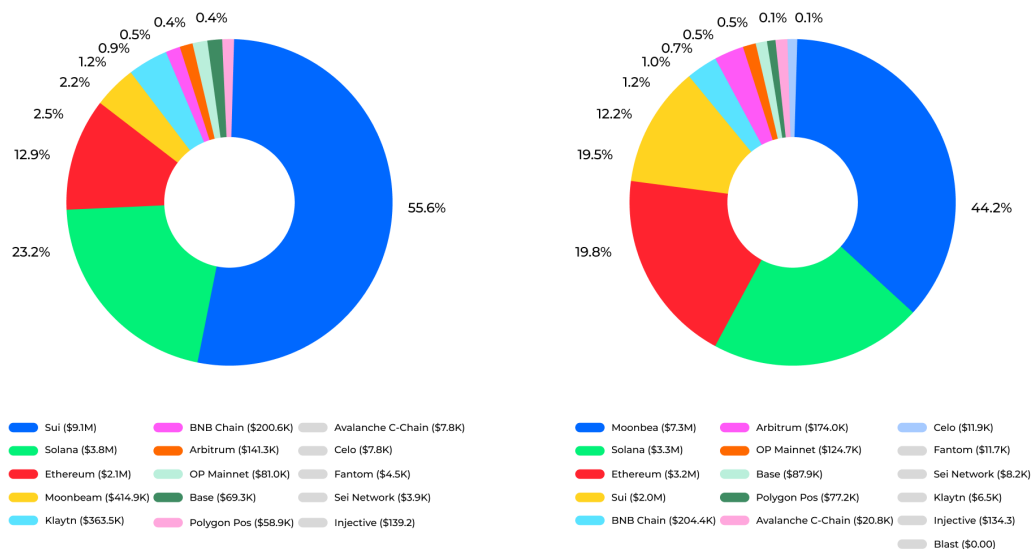


Gate Research, Data from: Artemis

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Over the past three months (up until January 22, 2025), 55% of capital flowing into Aptos came from Sui. Additionally, Solana and Ethereum also contributed significant amounts of capital. On the outflow side, Moonbeam was the largest recipient, accounting for 47%. Although Aptos attracted funds from Sui, Solana, and Ethereum, it has not been able to effectively capture the overflow of capital from other ecosystems, especially Ethereum and Solana, leading to noticeable net capital outflows.

Figure 36: Recent Capital Flows into Aptos (As of January 22, 2025)

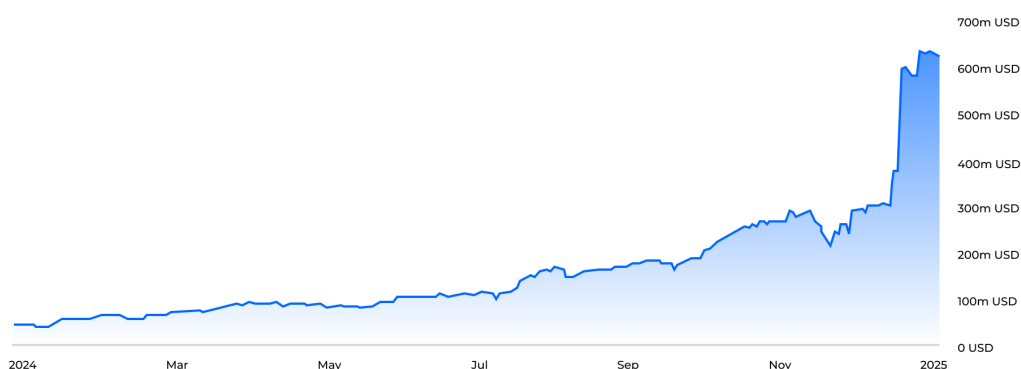


Gate Research, Data from: Artemis

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Since early 2024, the market cap of stablecoins on Aptos has grown from \$50 million to \$630 million by the end of the year, an increase of over 11 times. USDT is the dominant stablecoin on Aptos, accounting for over 70% of the total stablecoin market cap. On August 19, 2024, Tether announced the launch of USDT on Aptos. On October 28, 2024, Tether officially launched native USDT on Aptos, marking the first deployment of USDT in the Move ecosystem. At launch, the stablecoin market cap on Aptos was about \$270 million, and within two months, it grew by \$360 million, a 133% increase.

Figure 37: Stablecoin Market Cap on Aptos in 2024



Gate Research, Data from: DefiLlama

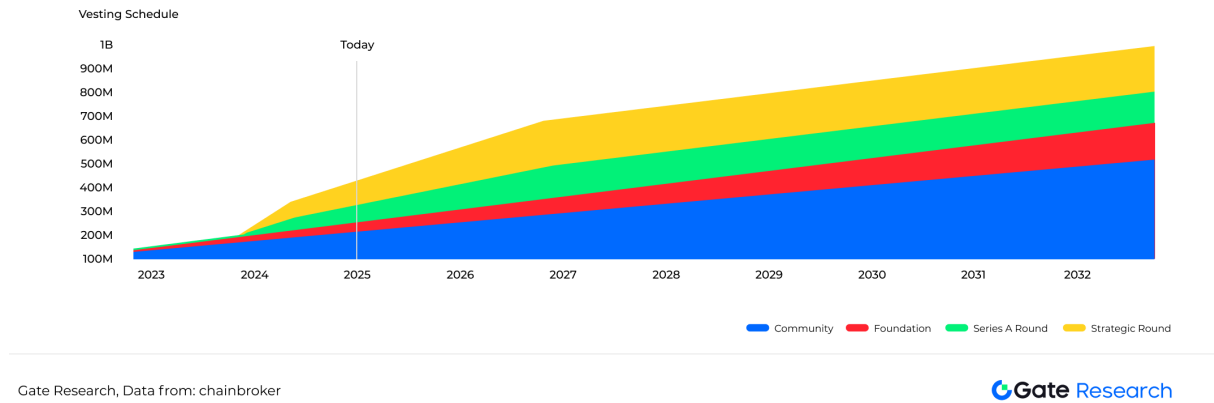
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4.6 APT Token Performance

The initial supply of APT tokens is set at 1 billion, with plans to increase this to 1.5 billion by 2031. The distribution is as follows: 51.02% for the community, 19% for the team, advisors, and private investors, 16.5% for the Aptos Foundation, and 13.48% for investors. The primary uses of APT tokens include paying gas fees, staking, and participating in community governance.

Although the community holds the largest proportion of tokens, the majority of the tokens in the early stages are controlled by the Aptos Foundation and Aptos Labs. The Foundation manages 400 million APT, while Aptos Labs holds 100 million APT, with 125 million tokens allocated for ecosystem project incentives. The distribution of the remaining tokens has not yet been fully determined. APT tokens are unlocked monthly, along with staking rewards, and currently, about 11.31 million tokens are unlocked each month for the community, the Foundation, investors, and core contributors. This ongoing unlocking process could create some selling pressure in the market.

Figure 38: APT Token Unlock Schedule



Looking at the price trend of APT, despite the absence of major announcements for Aptos in the first half of 2024, the token benefited from a market rally driven by Bitcoin and Ethereum ETFs, leading to a price increase. However, after hitting an all-time high of \$18.1 on May 27, the price began to decline and hit a low of \$5.3 on August 5. Following this, the price rebounded to \$14.6 on December 8, pushing its market capitalization over \$7.8 billion—nearly double the low seen earlier in the year. Still, it remains below its peak of \$18.1 from May 27.

Figure 39: APT Token Price and Daily Trading Volume



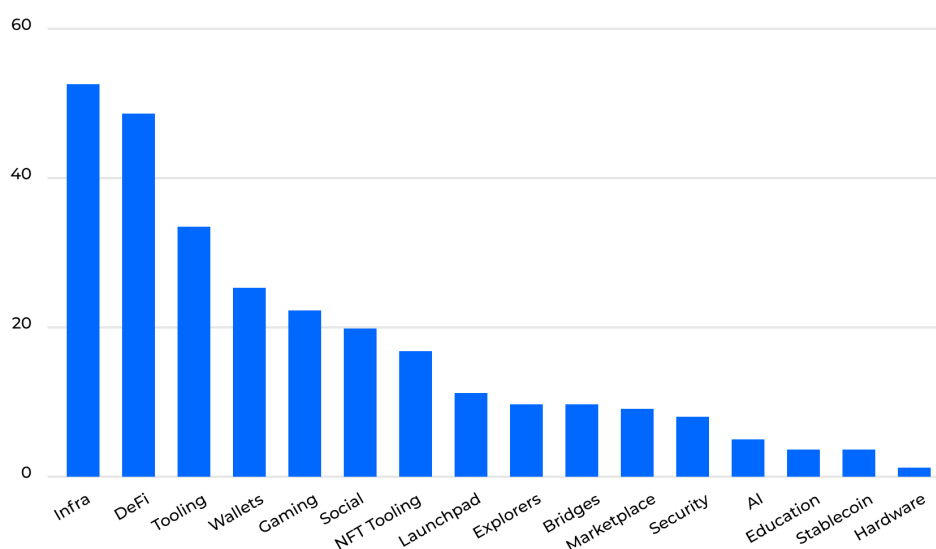
From the chart, we can see that Aptos' daily trading volume saw a significant surge from mid-September 2024, growing from \$100 million to around \$800 million to \$1 billion by the end of the year—an increase of over 8 times. This growth appears to be closely linked to several key developments within the Aptos ecosystem. On September 19, 2024, multiple well-known investment firms launched funds to support Aptos-based projects. On October 3, Aptos Labs announced

its strategic expansion into the Japanese market, and on October 28, the native USDT was successfully launched on the Aptos network. Additionally, Franklin Templeton expanded its on-chain money market fund to Aptos in October, further strengthening the ecosystem.

4.7 Ecosystem Development

According to data from the Aptos Foundation, there are currently 187 projects in the Aptos ecosystem, which is still in its early stages of development. The focus is primarily on building functional and liquidity infrastructure. Aside from infrastructure, the ecosystem strongly emphasizes DeFi, with 48 projects in this sector. However, the number of native tokens issued within the ecosystem remains relatively low. According to CoinGecko data, among the top 1,500 ecosystem native token projects by market cap, only Propbase (a real-world asset platform) and Thala are included. Additionally, Cellana's token, CELL, has a market cap ranked around 2,100.

Figure 40: Distribution of Projects Across Different Sectors in the Aptos Ecosystem



Gate Research, Data from: Aptos

Gate Research

Over the last 30 days (as of January 23, 2025), four DApps on the Aptos platform have had over 1 million monthly active users (MAUs). Kana Labs, a multi-chain DeFi platform, leads with 3.24 million MAUs, offering cross-chain transactions, cross-chain lending, and other functionalities. The Indian short video app Chingari follows closely with 3.19 million MAUs. This app has over 1 million downloads on Google Store, and users can earn GARI tokens through interactions and content creation. The NFT esports fan platform STAN ranks third with 1.99 million MAUs.

Tapos, a game that previously boosted Aptos transaction volume, saw a decline in user activity after peaking between May and August.

Aptos gaming has been a major focus for both Aptos Labs and the Foundation, as well as its users. Aptos has formed partnerships with large gaming studios and projects, including ReadyGG (which has 2,000 games in its ecosystem) and Stan (which targets the Indian gaming market).

Figure 41: Aptos Ecosystem DApp Monthly Active User (MAU) Rankings (as of January 23, 2025)

Rank	Dapp	UAW
1	Kana Labs	3.24M
2	Chingari	3.19M
3	STAN	1.99M
4	KGeN	1.30M

Gate Research, Data from: DappRadar

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In 2024, Aptos focused its ecosystem development on three key areas: DeFi, RWA (Real-World Assets), and AI. Aptos' strategic lead, Neil, clearly stated, "Aptos 2024 = Move + DeFi/RWA + AI," signaling that Aptos would intensify efforts in these areas. In the RWA space, Aptos has been pushing for tokenizing real-world assets. In July 2024, Aptos introduced USDY from Ondo Finance, integrating it with major DEX and lending platforms. Aptos also partnered with Franklin Templeton to launch a U.S. government money market fund on the blockchain.

On the cross-chain front, Aptos has partnered with Stacks and Bsquared Network to bring Bitcoin (BTC) assets from Layer 2 into the Aptos ecosystem, aiming to diversify the available assets and increase TVL (Total Value Locked). To encourage more BTC assets into the ecosystem, Aptos is offering high APT rewards. In the AI field, Aptos has joined forces with NVIDIA, Tribe, and Ignition AI, among others, to drive blockchain-based AI applications.

In summary, while Aptos has shown strong development momentum, its token still faces pressure from the ongoing unlocking process, which could limit price increases. On the positive side, the number of active addresses is growing steadily, and the ecosystem is expanding. With a focus on RWA and BTCFi, Aptos is working to grow its ecosystem. However, due to the early stage of ecosystem development, there are fewer on-chain assets, and a lack of high-market-value meme coins, limiting overall trading activity.

5 Move Ecosystem Duopoly: The Competition and Game Between Sui and Aptos

As Layer 1 blockchains based on the Move language, Aptos and Sui are often referred to as "twin stars," with high similarity in terms of technical approaches, community support, and other aspects. As the most direct competitors, both Aptos and Sui have attracted widespread attention from the market. The following will compare the two projects in terms of background, technology, network performance, on-chain data, ecosystem development, and token performance.

5.1 Same Roots, Different Paths: Technical Implementation and Performance PK

From the background perspective, Sui and Aptos have similar team backgrounds and investors. Both projects have attracted attention from numerous leading capital investors since their launch. For example, a16z participated in the first round of funding for both companies, investing in Sui in December 2021 and in Aptos in March 2022. Although both Sui and Aptos aim to improve TPS (Transactions Per Second), scalability, and security, and both use a PoS consensus mechanism with parallel transaction processing, they use different algorithm designs for their technical implementations.

Sui innovates on the Move language by adopting an object-centric model, which enhances security and achieves high performance via a DAG consensus mechanism. Aptos, on the other hand, optimizes the traditional blockchain architecture by adopting the DiemBFTv4 consensus mechanism and improving transaction parallel processing through Block-STM. Overall, Sui has a stronger theoretical foundation regarding scalability, while Aptos's consensus mechanism is relatively more mature.

In terms of TPS data, Sui has higher theoretical performance. However, in actual use, due to network optimization and differences in underlying technologies, the perceived speed differences between Sui and Aptos are not significant, with both offering near real-time interaction experiences. However, when it comes to fees, Aptos generally has lower transaction costs, while Sui's gas fees can be relatively high in some transaction scenarios and are also linked to the quality of contract code. In general, Aptos has more controllable transaction costs.

Figure 42: Comparison of Sui and Aptos Networks

	Sui	Aptos
Language	Improved Move Language: Sui Move	Move Language
TPS	297,000	160,000
Confirmation Time	<1s	<1s
Consensus Mechanism	Parallel processing, DAG-based Byzantine Fault Tolerance (Narwhal and Bullshark)	Parallel processing, AptosBFT
Average Gas Cost	~ \$0.014	~ \$0.00087
Innovations	Hybrid governance and transaction pre-execution	Gas and transaction storage mechanisms

Gate Research, Data from: Gate Research



5.2 Sui vs Aptos: The Battle for Users and Funds

Figure 43: Comparison of Core Metrics for Sui and Aptos

Key Metrics		Sui		Aptos	
		Dec 31, 2024	Peak 2024	Dec 31, 2024	Peak 2024
User Data	Monthly Active Addresses	8.3 million	9.9 million	10 million	10 million
	Daily Active Addresses	650,000	2.5 million	1.1 million	1.2 million
	Daily Transactions	5.1 million	58.4 million	4.3 million	326 million
Financial Data	Daily Gas Revenue	\$70,000	\$160,000	\$5,500	\$100,000
On-chain Fund Data	TVL	\$1.7 billion	\$2.3 billion	\$980 million	\$1.3 billion
	Cumulative Transaction Volume	\$44 billion	\$44 billion	\$11.9 billion	\$11.9 billion
	Daily Trading Volume	\$300 million	\$674 million	\$19.7 million	\$86.9 million
	Net Fund Inflows (2024 Jan 10—2025 Jan 10)	\$1.16 billion		-\$3.5 million	
Stablecoin Data	Stablecoin Market Cap	\$370 million	\$440 million	\$633 million	\$634 million
Token Performance	Token Market Cap	\$12.18 billion	\$14.08 billion	\$4.9 billion	\$7.8 billion
	Token Growth (from the beginning of the year)	425%	500%	-5%	84%
	Token Daily Trading Volume	\$850 million	\$2.16 billion	\$360 million	\$1.3 billion

Gate Research, Data from: DefiLlama & Artemis



From the user data, Aptos leads in monthly and daily active users compared to Sui. In contrast, Sui’s monthly and daily active users, as well as daily transaction volume, have seen a decline after reaching peak values. Aptos users show higher retention, with the monthly and daily active

users at the end of the year not significantly different from the peak values, though daily transaction numbers have also dropped slightly. Sui's ecosystem once attracted a lot of short-term speculative users, leading to an influx of speculative projects and meme coins, which caused user loss once the hype faded.

From the financial data, Sui's daily gas revenue is significantly higher than Aptos's. Although Aptos has also experienced higher peak revenues during certain periods, its overall revenue level is relatively lower. Considering that both ecosystems have similar user scales, the higher gas revenue for Sui may be related to higher transaction costs or more complex transaction types.

In terms of on-chain fund data, Sui's Total Value Locked (TVL) and transaction volume are significantly higher than Aptos. This shows that Sui performs better in attracting funds and driving transactions. Sui's token price growth also far exceeds that of Aptos, and its total market cap for ecosystem tokens is higher, which could be one of the reasons for Sui's higher TVL. Aptos has fewer on-chain assets and lacks high-market-cap meme coins, contributing to its lower transaction volume. Moreover, compared to mature blockchains like Solana, both Sui and Aptos have lower DeFi user activity, indicating that their user structures need optimization.

Regarding fund inflows, Sui has continued to attract substantial capital, second only to Base, OP, and Solana. In contrast, Aptos has seen relatively smaller inflows, with a net outflow of \$3.5 million over the past year. The funds flowing into Sui mainly come from the Ethereum ecosystem, while Aptos's funds largely come from Sui, indicating that Sui is the primary point of fund inflows in the Move ecosystem, with Aptos largely acting as a receiver of funds spilled over from Sui. However, this spillover effect is not significant, and Aptos has not formed independent capital attraction. Still, the market cap of stablecoins on Aptos is higher than on Sui, which may be related to its focus on RWA (Real World Asset) development. Overall, Sui outperforms Aptos in terms of capital attraction.

5.3 Token Performance: Sui Takes the Lead, Aptos Struggles

From a token price perspective, Sui had an impressive performance in 2024, surging 425% from the start of the year, regularly reaching new all-time highs. In contrast, Aptos saw relatively weaker growth, with its price even falling below the starting point by year-end, failing to recover to its previous high. Additionally, both Sui and Aptos face significant monthly unlocking pressure. Sui unlocks about \$2 million in tokens monthly, which accounts for 2.32% of its circulating supply, while Aptos unlocks around \$1.2 million monthly, representing 2.17% of its circulating

supply.

Looking at ecosystem development, Aptos has a significantly larger number of projects (187) compared to Sui (86), making its ecosystem more diverse. Currently, Sui's users are mainly concentrated in social and gaming sectors, attracting some funds through meme coins in the short term, but the hype has not been sustained. Aptos, on the other hand, focuses on RWA (Real World Assets) and BTCFi, attempting to expand its ecosystem by introducing more assets. While Sui's ecosystem is smaller, its ecosystem tokens have shown strong performance, which has garnered more attention to the Sui ecosystem. In contrast, Aptos' ecosystem tokens are relatively underdeveloped, except THL and CELL, lacking core ecosystem tokens, which limits the overall growth of its ecosystem.

Overall, Sui has performed better in attracting capital, leading in gas fee revenue, TVL, ecosystem capital inflows, and other key metrics. Aptos, however, slightly leads in user activity, with a steady increase in the number of active addresses. Aptos's ecosystem, with innovative applications, is integrating blockchain technology with real-world activities, establishing a solid user base. Currently, based on the discussed metrics, Sui has the upper hand. Sui has rapidly gathered significant capital through meme coins and expanded its ecosystem, establishing a foothold in the mainstream blockchain market. However, whether the user growth driven by short-term speculation can be sustained in the long run remains to be seen. While Aptos has not been as successful as Sui in attracting capital, its higher user retention gives it a more solid user base, and its deeper involvement in the stablecoin space is worth noting. How both ecosystems evolve in the future will be worth watching.

6 Conclusion

The rise of the Move language is driving the public blockchain space into a new competition phase, especially with Sui and Aptos leading the way. Sui, with strong market performance and capital inflows, has frequently set new highs, demonstrating its potential in ecosystem development. Aptos, however, continues to focus on user activity and stablecoin ecosystem development, showing strong community support and growth prospects.

Although both projects attract attention due to their similar technical backgrounds, the differences in their ecosystem building and market strategies are equally important. Sui has established a significant competitive advantage through aggressive capital inflows, while Aptos continues to push forward with its innovation and user retention, enhancing both the depth and breadth of its ecosystem. As the public blockchain market continues to evolve, the battle for dominance within the Move ecosystem will continue to attract attention, and the development paths of these two ecosystems are worth closely tracking.

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