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Aptos vs Sui Blockchain: Which Layer 1 Blockchain is Better?

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Which Blockchain at the Layer 1 Level is Better?

Over the past 12 months, layer 1 (L1) [blockchains](#) have proliferated, allowing ecosystem pumps to occur at every level of the market. The L1 blockchain has matured into a competitive option to Ethereum. Superior scalability, cheaper fees, native decentralized applications, potentially lucrative but also highly dangerous meme tokens, and enormous annual percentage yields are just some of the benefits that may be gained by using them.

As savvy financiers, we recognize that a token's potential for large gains depends on the health of the ecosystem it serves. Since the recent hacks on Solana and Nomad, investors have been searching elsewhere for a more secure and cutting-edge blockchain, driving up demand for other L1s.

Many venture capitalists (VC) have expressed interest in investing in Aptos and Sui, two of the most often discussed L1s recently.

Because their founding teams include former Facebook blockchain developers and because their infrastructure is based on Meta's defunct blockchain initiative, Diem, both of these web3 firms have a lot to offer blockchain veterans.

Both groups are working to solve the scalability problem in the blockchain, but they are taking very different ways. This piece will analyze the differences between Aptos and Sui, two L1 blockchains, and help you decide which one to invest in.



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Aptos Blockchain, Explained

[Aptos](#) is co-founded by Mo Shaikh (CEO) and Avery Ching (CTO), both former Meta employees who have years of experience as a senior developer and engineer in the blockchain industry.

Aptos is backed by an extraordinary group of PhDs, researchers, engineers, designers, and strategists who go by the name Aptos Labs. In addition, Aptos has been rapidly increasing the size of its staff. They've just hired numerous ex-Solana employees, including Austin Virts, formerly Solana's head of marketing.

Aptos makes use of important features from the defunct Diem blockchain, in addition to Move, a Rust-based programming language created independently by Meta. Aptos asserts that the network's parallel execution engine (Block-STM) will allow it to handle more than 130k transactions per second, resulting in reduced transaction fees for customers.

Sui Blockchain, Explained

Executive Director (CEO) Evan Cheng, Chief Technology Officer (CTO) Sam Blackshear, Chief Privacy Officer (CPO) Adeniyi Abiodun, and Chief Marketing Officer (CMO) George Danezis created Sui (Chief Scientist). They had previously served as heads of Meta's top-tier blockchain R&D team.

They developed cutting-edge open-source features like Diem's programming language, execution engine, and cryptography.

To that end, Sui was developed as a permissionless L1 blockchain that would free up developers to make applications for the web3. Its proof-of-stake network, like Aptos', will enable horizontal scalability and the concurrent execution of transactions. The amount of computing time and money spent on transactions is drastically decreased.

Despite the fact that both Aptos and Sui employ Move as its programming language, the versions they use are different enough from one another that the two systems' underlying infrastructures are fundamentally unique.



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Comparison Between Aptos and Sui Blockchain

Computer Language for Programming

Move is a Rust-based programming language that is used for parallel execution by both Aptos and Sui, albeit Sui utilizes a slightly modified version of Move.

In a nutshell, Move is a bytecode language for developing blockchain-based smart contracts and bespoke transactions. As stated in Diem's whitepaper, Move prioritizes scarcity and access control over other digital assets. Scarcity limits the production of assets, which eliminates the possibility of double spending, whereas access control regulates who owns what and who has what access.

Resource management in this language is inspired by the mathematical concept of linear logic, setting it apart from languages like Solidity. To those practicing linear logic, formulas are like rare metals; once they're gone, they're gone forever. The developers at Move chose the name "Move" because "a resource can never be copied or implicitly discarded, just moved between program storage places." Gas costs can be minimized while still maintaining a high level of security thanks to this approach.

Aptos essentially mimics Diem's whitepaper in its pedagogical ethos. However, Sui's object model differs slightly from Aptos'. The blockchain records everything, from addresses to transactions, in an object-oriented storage system. These are "things" in the representation.

Unlike in Aptos, it is obvious in Sui's implementation of Move whether an object is owned, shared, mutable, or immutable. Furthermore, Sui's ownership API is more streamlined than Aptos's since it more clearly demonstrates the blockchain architecture.

Funding

FTX Ventures, Jump Crypto, a16z, Tiger Global, Multicoon Capital, and many more investors have contributed to Aptos Labs' \$350 million funding round. At the moment, there are 28 investors in Aptos Labs.

This is a huge increase from Sui's Series A fundraising round of \$36 million. Despite Sui's reduced budget, the company has a larger pool of talent thanks to Diem's acquisition.

Architecture

While proof-of-stake is used by both Aptos and Sui, the underlying consensus process for each is unique.

Aptos uses parallelization by utilizing BlockSTM, a variant of the HotStuff consensus protocol, to dynamically detect dependencies and schedule execution tasks.

Narwhal and Tusk, a DAG (directed acyclic graph)-based (mempool) utilized for parallelization at the execution layer, are implemented by Sui as their consensus algorithm. Due to its asynchronous nature, the protocol is resistant to denial-of-service (DoS) assaults.

When comparing Sui with Aptos, Sui is more secure.

Scalability

Both Aptos and Sui, like Solana, prioritize scalability by increasing network capacity rather than supporting the home validator case or adopting widespread decentralization. But the expansion of individual states within the ecosystem is where we'd hit a wall.

Aptos places an emphasis on heterogeneous validators (with limited CPU and storage) to deal with the state growth bottleneck, while Sui intends to shard data storage efficiently and scale its resources horizontally.

Conclusion

It's too soon to tell which one you should be most optimistic about. Both have been making tremendous progress and have done a great job of improving upon the existing design. Whatever the case may be, though, Move technology is probably here to stay because it holds a lot of potential for increasing the scalability and security of blockchain networks.



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FAQs

1. Is the Aptos blockchain more reliable than the Sui chain?

It is too soon to tell which one to have more confidence in. Each project has been making significant progress and has done a great job of optimizing its existing design. Whatever the outcome, Move technology is probably here to stay as it holds much promise for increasing the scalability and security of blockchain networks.

2. Do you think Sui blockchain is superior to Aptos blockchain?

It is too soon to tell which one to have more confidence in. Each project has been making significant progress and has done a great job of optimizing its existing design. Whatever the outcome, Move technology is probably here to stay as it holds much promise for increasing the scalability and security of blockchain networks.

3. Where do Aptos and Sui blockchains have common ground?

Move is a Rust-based programming language that is used by both Aptos and Sui for parallel execution on the blockchain, albeit Sui's implementation is slightly different from Aptos'.