What Exactly is Aptos? A Look Into the 'Solana Killer'

Original: https://www.btcc.com/en-US/academy/research-analysis/what-exactly-is-aptos-a-look-into-the-solana-killer

Just what is Aptos, exactly? The Diem Developers' "Solana Killer"

Aptos, a blockchain platform founded by the people who created Meta's Diem blockchain, has raised a lot of money thanks to its innovative approach to transaction ordering.

Ethereum is the original blockchain with smart contract functionality, meaning it can be used for NFTs, DeFi, DAOs, and other blockchain experiments, but it comes at a high cost and is painfully slow to deploy.

Solana is the old upstart, the faster and buzzier but sometimes sputtering and stalling newcomer.

Meta (formerly Facebook) attempted to launch its own blockchain in 2019 under the name Libra (later renamed Diem), but the effort was scrapped due to regulatory pushback.

There are still issues to be resolved, such as how to create a blockchain that is really distributed, safe, and quick. Will that work? Whenever one of these factors is successfully implemented, it inevitably comes at the expense of another.

Aptos' developers, though, are confident that their experimental transaction-ordering algorithm, Diem 2.0, holds the key.

What Exactly is Aptos?

Aptos is a brand-new player. In late July, the fast blockchain secured a $150 million investment round led by FTX and investors including Parafi; in March, the fast blockchain secured a $200 million strategic round from major players like Andreessen Horowitz, Multicoin Capital, and Haun Ventures.

Aptos was co-founded by Avery Ching and Mo Shaik, who both previously worked on Diem's Novi wallet. The company employs a concept dubbed "parallel execution," first described during Diem's time in the industry (more on this below), to increase transaction speeds while lowering costs.

It positions itself as Diem's successor and employs Diem's custom programming language, Move, just as another project called Sui.

Despite not having a token or any other form of funding than venture capital, there seems to be a fair amount of excitement about this project.

Whether "parallel execution" actually works as promised and how the new blockchain can generate a large enough ecosystem of programmers ready to master its relatively unfamiliar programming language are all open concerns.

How Does Aptos Work?

The ability to run multiple tasks simultaneously is what makes Aptos stand out. The majority of blockchains employ a transaction ordering scheme known as sequential, or serial execution, wherein a single chronology of transactions is continually updated; in this scheme, each new trade or purchase is recorded in a single, long ledger that contains all previous trades and purchases and is synchronized across thousands of nodes.

Most blockchains settle at a snail's pace because of the time it takes to verify each new transaction when it is added to the chain.

In contrast, parallel execution executes numerous independent chains in simultaneously, allowing for the potential for more work to be done at once. When compared to Ethereum's 30 transactions per second, Aptos claims its testnets have already reached 130,000.

Do You Trust Aptos?

The future of parallel execution is unclear. Whatever gains in productivity it may offer could come at the expense of safety. There is logic to the design of "sequential" blockchains. Because there is only one plausible path a transaction may take, verifying the chain's contents is simplified by using a single chronology of transactions.

Adding in extra layers of complexity is doing things in parallel chains. It becomes more complicated to see all of a transaction's history if there are numerous chains involved, and certain transactions may fail if they try to go through more than one chain at once (which may also encourage fraudsters to "double spend").

Aptos's answer is to wait for the dust to settle after a transaction has been processed and then validate all chains at once, allowing properly placed transactions to proceed while "re-executing" failed ones.

Supposedly, this philosophy of "execute first, ask questions afterwards" has proven effective.

The Future of Aptos

Aptos has been under fire ever since it was released from people who are skeptical that its creators can shake the reputation of having worked for the multinational once known as Facebook.

This seems to be the case given that Aptos claims to have integrated several Libra-related projects into its ecosystem and that these projects are content to develop solely in Aptos' relatively untested programming language.

> We recently concluded a successful AIT2 that brought the Aptos community closer together. Thank you for participating and making AIT2 even more successful than AIT1! Read more about the road ahead here: https://t.co/DZ6ECzC9zX
>
> — Aptos (@AptosLabs) August 1, 2022

Aptos' Discord has over 63,000 users, including about 8,000 developers, and the protocol is supported by over 20,000 nodes, suggesting that Aptos' founders' reputation and experience have attracted new developers.

Aptos has recently finished updating its testnet, and its mainnet rollout is scheduled for later this year. For reasons of regulation, however, the token will be unavailable in the United States.