Intents
(powered by Pipeline Transactions)

A quiet revolution is underway transforming how we use blockchains, and at its core is one of crypto's latest buzzwords: "intents".

The current standard method through which users interact with blockchains is to craft and sign transactions, messages in a specific format that provide all of the necessary information for execution. However, creating transactions can be a complicated affair. Creating transactions requires reasoning about a vast web of smart contracts and details while holding a specific asset to pay gas fees. This complexity leads to suboptimal UX and lost efficiency due to users being forced to make decisions without sufficient access to information or sophisticated execution strategies.

We can compare this to saying: "I want to go from place A to place B and will first take street X, then street Y and then Z". This defines not only the goal (go from A to B), but also how to achieve it (take streets X, Y and Z).

With intents, a user simply states what's the desired outcome and outsources how to accomplish it to a specialized solver. Back to the previous analogy, a user would state "I want to go from place A to place B" and let solvers direct him to the best route.

On a blockchain, a user may want to trade token A and token B. The best way to accomplish that may be on a DEX or even splitting the trade among multiple DEXes. The user would only state "trade token A for token B" and the solvers would suggest the best way to execute it.

While intents promise exciting improvements in user experience and efficiency, most networks are still relying on Account Abstraction, which is in early stages of development and adoption. Hathor, however, offers a concrete solution now with Pipeline Transactions. This technology allows us to achieve the benefits others are still working toward, putting Hathor far ahead in delivering enhanced functionality today.

Enter Pipeline Transactions

In traditional smart contract platforms, each transaction typically executes only one smart contract function.

With the upcoming Pipeline Transactions on Hathor Network, developers will be able to execute multiple functions from different contracts in a single transaction, greatly enhancing efficiency and usability.

In blockchain, atomicity ensures that a set of operations completes as a whole — either all steps succeed, or none do. If even one operation fails, the entire sequence is 'rolled back,' meaning no changes are applied to the blockchain.

Currently, on many popular platforms, achieving atomicity across multiple calls to different contracts in a single transaction is complex. Typically, it requires deploying an additional 'intermediary' or 'multicall' contract to handle multiple internal calls. This approach adds time, costs, and complexity.

When released, Hathor's Pipeline Transactions will allow multiple contract calls to be executed in a single transaction without an intermediary contract. This means:

- Multiple operations, like transferring tokens, calling functions, or interacting with different contracts, can occur in one transaction.
- The entire chain of operations completes entirely or fails entirely. If any call fails, the transaction is reversed, leaving the blockchain state unchanged.

This upcoming feature will offer several advantages over traditional solutions:

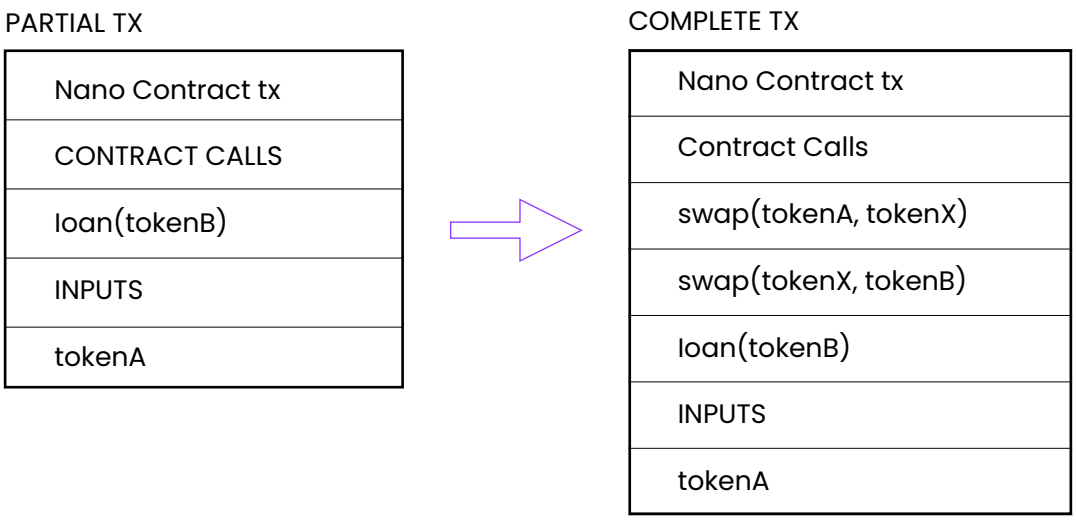
- **Efficiency:** Avoids the need for extra custom contracts for bundled actions.
- **Cost Savings:** Fewer deployments and executions mean lower transaction fees.
- **Reliability and Security:** Atomic execution ensures consistency, reducing risks of partial failures.

Pipeline Transactions represent a key advantage Hathor will bring to the table in the future, setting the foundation for a more seamless and efficient blockchain experience."

A practical example

Let's say a user has token A but wants to trade it for token B and then loan it at a lending market. Also consider that swapping token A for token B requires executing 2 trades, first swapping token A to token X and then token X to token B. The user may execute all of these actions within a single transaction.

Combined with the intent architecture, this allows for greater user experience and efficiency. A user may send a partial transaction with tokenA as an input and a call to loan(tokenB), basically saying "I want to trade tokenA to tokenB and loan it". Solvers on the network may pick up this transaction and complete it with the remaining steps, which is swapping tokenA for tokenB, executing that the best way possible.



Develop on Hathor Network

Native solutions to common crypto UX challenges and multiple smart contract calls in a single transaction are just two of Hathor's many developer-friendly features. If you're looking to push the boundaries of DeFi application development, consider building your next project on Hathor. Our public Nano Contracts testnet is open and ready for you to explore today!

Start developing Nano Contracts now!