What is NeonEVM?

Neon EVM is a tool that enables Ethereum Virtual Machine (EVM) developers to easily adapt their existing codebase, for building and deploying applications (dApps) from Ethereum to Solana.

Essentially, Neon EVM acts as a connection point between Ethereum based dApps and the Solana blockchain, allowing developers to transfer their dApps to Solana with adjustments.

How it works?

NeonEVM integrates the Ethereum Virtual Machine into the Solana blockchain. This integration enables the modification of the Solana runtime to support the execution of contracts with the EVM.

Once integrated, developers can execute contracts written in Solidity (the programming language used in Ethereum) on Solana.

NeonEVMs goal is to establish compatibility, between Ethereum based contracts deployed on Solana and the wider Ethereum ecosystem. This means that developers have the flexibility to create dApps that can interact with both ETH and Solana smart contracts.

How does a transaction work?

When a user initiates a transaction, on an Ethereum dApp, such as sending tokens or interacting with a contract, the process involves steps:

1. The transaction is first sent to the Neon Proxy by the Ethereum API.
2. The Neon Proxy then processes the transaction, calculates gas usage and converts it into a format that Solana can understand.
3. The wrapped transaction is forwarded to the Neon EVM program on Solana.

Execution on Solana;
Verifies the user's signature.
Gather data like account details and the code of the contract.
Executes the transaction, within Solanas programming environment.
Updates Solanas records to reflect any modifications resulting from the transaction.

Finalization;
Once completed, both Solana and Neon EVM update their records accordingly.

What are the benefits?

I think everyone knows how expensive ETH gas fees are.
And everyone knows how cheap Solana fees are.

ETH transactions can last for hours; Solana instead takes seconds.
The NeonEVM team is introducing Ethereum’s gas model to Solana to help with this by exploiting the high transactions per second (TPS) rates and low transaction fees of Solana.
NeonEVM is a way for developers and users to have an alternative platform that will transact faster than Ethereum and incur lower costs.