



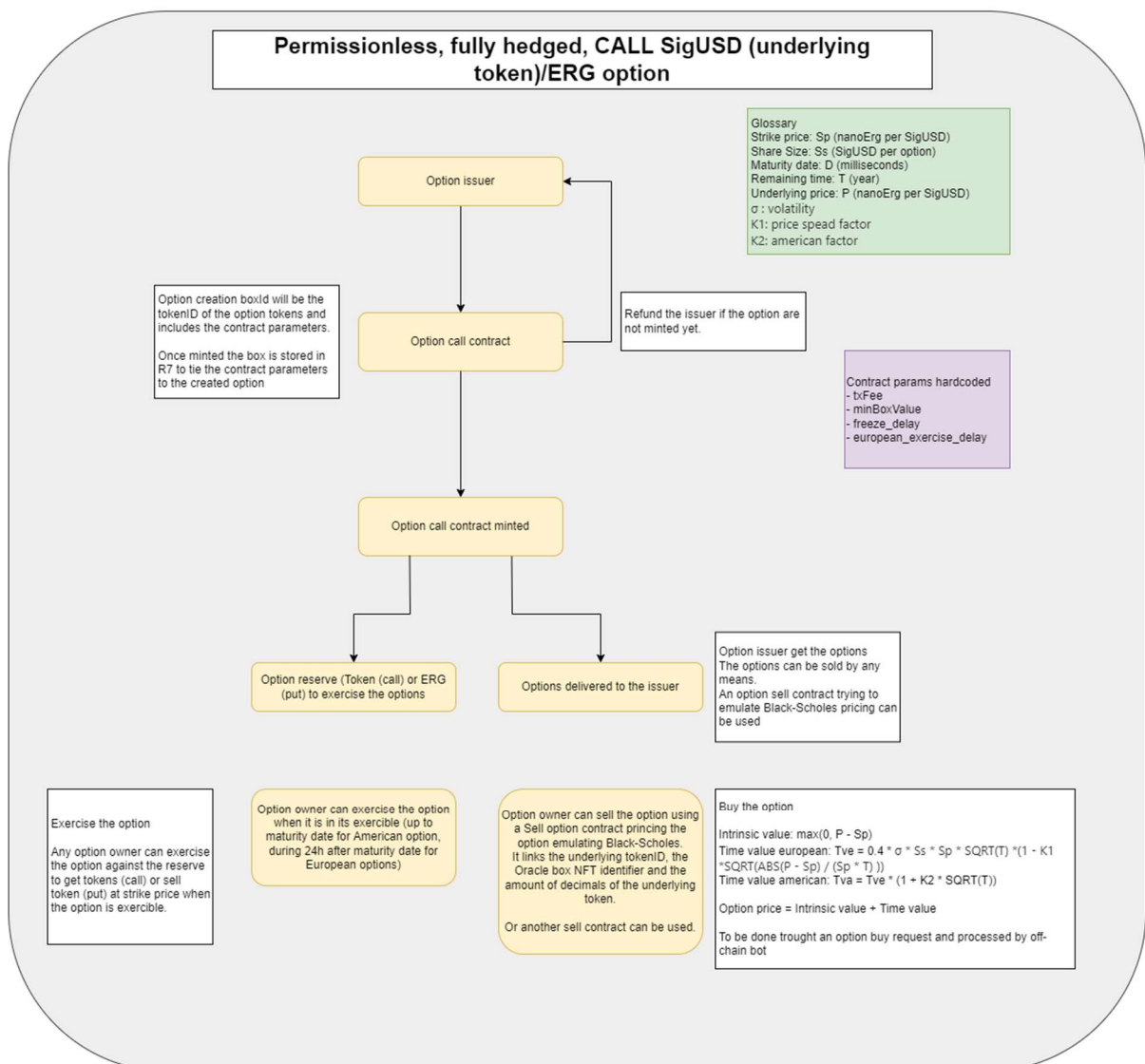
SigmaO – Options on Ergo tokens

Initial version of SigmaO was to provide a contract allowing to create tokens behaving like an option on other ergo EIP-4 tokens having an Oracle on chain to price the option. The repository is visible on github: <https://github.com/ThierryM1212/SigmaO>

The goal of the Ergohack VI will be to make the option emission contract more generic, to allow creating options on any ergo EIP-4 tokens.

Also, it will try to provide a priced Sell option contract for option tokens with an underlying token having an on-chain Oracle. It can be the ERG-USD Oracle, or any Spectrum Liquidity Pool.

An off-chain bot and a UI more human friendly will need to be implemented.





Different main tasks:

- Improve the current v0 contract to split the option emission and the pricing
- Make a separate Sell option contract emulating the Black-Scholes pricing for the tokens with an Oracle or a Spectrum LP
- Make a UI to interact with the contracts
- Make a off-chain bot to process the off-chain transactions they are currently processed by buttons in the dev UI
- Deploy and beta-test

What SigmaO will try to offer:

- A permission-less, fully hedged, contract to create token behaving like an option on other ergo EIP-4 tokens
 - o Option contract parameters:
 - Underlying token id
 - Option type: Call / Put
 - Option style: European / American
 - Share size: number of underlying tokens granted per option
 - Maturity date: Expiration date of the option
 - Strike price: price to exercise the option
 - dApp UI Fees configuration
 - o The option can be of type:
 - Call: The emitted option tokens grant to buy an amount of a given token at a given price at or up to the maturity date.
 - Put: The emitted option tokens grant to sell an amount of a given token at a given price at or up to the maturity date.
 - o The option can be of style:
 - European: Exercible during 24h after the maturity date
 - American: Exercible up to the maturity date
- The option grants are included in the emitted option tokens them-self. They are freely tradable; they can be sold on Tokenjay.app or using an Auction house.
- A parametrizable Sell option contract that tries to emulates the Black-Scholes pricing will be implemented, so an option seller can see the price of the option follow the price of the underlying token automatically.

Cypherpunk finance

- Allow Ergo users to freely create and/or use financial structured products.
- SigmaO being permission-less, once reviewed other UI may implement it and offers service around it.
- Emitted options are EIP-4 tokens. SigmaO allows directly the emission of more complex financial product like compound options.