

Is there any onchain solution for Options trading?

By Option I mean:

en.wikipedia.org

Option (finance)

In finance, an option is a contract which gives the buyer (the owner or holder of the option) the right, but not the obligation, to buy or sell an underlying asset or instrument at a specified strike price prior to or on a specified date, depending on the form of the option. The strike price may be set by reference to the spot price (market price) of the underlying security or commodity on the day an option is taken out, or it may be fixed at a discount or at a premium. The seller has the corre...

That seems possible with smart contracts only. Now, since DAI is available You can Imagine such options priced also in USD.

I'm aware of Augur, but to my knowledge it has off chain dispute resolution.

I'm looking for opensource full on-chain solution

Lets say its 01.09.2018

Lets consider Alice who owns 1000 ETH and want to insure herself against it's price loss below 200 USD until 1.11.2018 and is willing to pay 10ETH for such insurance

Lets consider Bob who is bull about ETH would gladly earn some and has 200 000 USD to risk.

1. Bob buys 200 000 DAI
2. Alice creates SC and deposit 10ETH, smart contract allows anyone to claim that 10ETH if only he/she is willing to deposit 200 000 DAI until 1.11.2018
3. Bob deposit DAI and claims ETH
4. Alice has right (but not obligation) anytime before 1.11.2018 to send ETH to SC and get DAI in return in exchange rate of 1ETH:200DAI
5. If Alice do so All ETH send to SC goes to Bob

That would secure Alice against ETH value loss for a period 1.09.2018-1.11.2018

And if ETH stay above 200 DAI/ETH taking DAI deposit by Alice would be irrational and Bob will not get harmed because he would be able to buy back any DAI he lost by ETH he acquired

That SC sounds like Long Put for Alice and Short Put for Bob

Is anyone here aware of such onchain solution existing or in development?

This one above was only an example. In practice that kind of tool can be used to stabilize price of any asset against any other.

As far as I know commodities who has Options market are more stable in price than those who do not one.