BTCsub Quant Hedge Fund DeFi Protocol

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Abstract: **BTCsub**: BTCsub is a synthetic cryptoasset directionally and dynamically linked to a multiasset portfolio of Bitcoin(BTC), major Altcoins and a basket of US dollar stablecoins e.g. USDC, TrueUSD and USDT. Essentially BTCsub is an autonomous quantitative hedge fund-as-a-token and categorized as a DeFi protocol belonging to the decentralized finance space. The primary design objective of BTCsub lets investors and token-holders gain exposure to the BTC-Bitcoin and other cryptocurrencies while protecting them from extreme intra-day price volatility and downside risks generally associated with cryptocurrencies. Basically BTCsub is a capital protection insurance with infinite upside potential.

How it works

BTCsub as a quant hedge fund(QHF) DeFi protocol dynamically allocates funds to three classes of cryptoassets in decentralized finance(DeFi) space: 1. Bitcoin and 2. USD-linked stablecoins and 3. Altcoins such as ETH, XLM and XTZ dynamically and directionally in a mutually exclusive way. If BTC value is either relatively stable or positively increasing relative to the purchasing power of the basket of Stablecoins--->(USDC, TrueUSD and USDT), BTCsub protocol automatically buys more BTC/Bitcoins. But when BTC price negatively fluctuates and losses 3% or more value for more than >10 minutes, then BTCsub's Conversion Contract automatically reshuffles and rebalances its portfolio of cryptoassets to the basket of stablecoins by progressively selling BTC and Altcoins and re-allocate funds more and more to USD stablecoins in a calibrated manner guided by the DelayFunc(0.50%+ +/--). And again when BTC and Altcoin prices stabilize and their prices start increasing relative to the stablecoin basket by >1%, then BTCsub dynamically rebalances its portfolio to BTC and Altcoins by buying them in the open market indefinitely unless and until situation reverses itself and another portfolio swap of underlying AUM to stablecoins gets triggered by negative fluctuations of BTC/Altcoins.

The whole dynamic process of tactical asset allocation and reshuffling is completely automatic and decentralized with zero interefence from any human actors, benign or hostile.

Tactical asset allocation strategy and underlying portfolio of BTCsub:

1. BTC:---> Min 0%--Max 50%

2. USD Stablecoins(TUSD, USDC, USDT):-->   Min 25%--Max100%

3. ETH, XLM, XTZ, XMR: -------------->   Min 0%--25%

Figure 1. Dynamic Allocation and Re-allocation of BTCsub AUM to BTC/Altcoins and USDT/Stablecoins
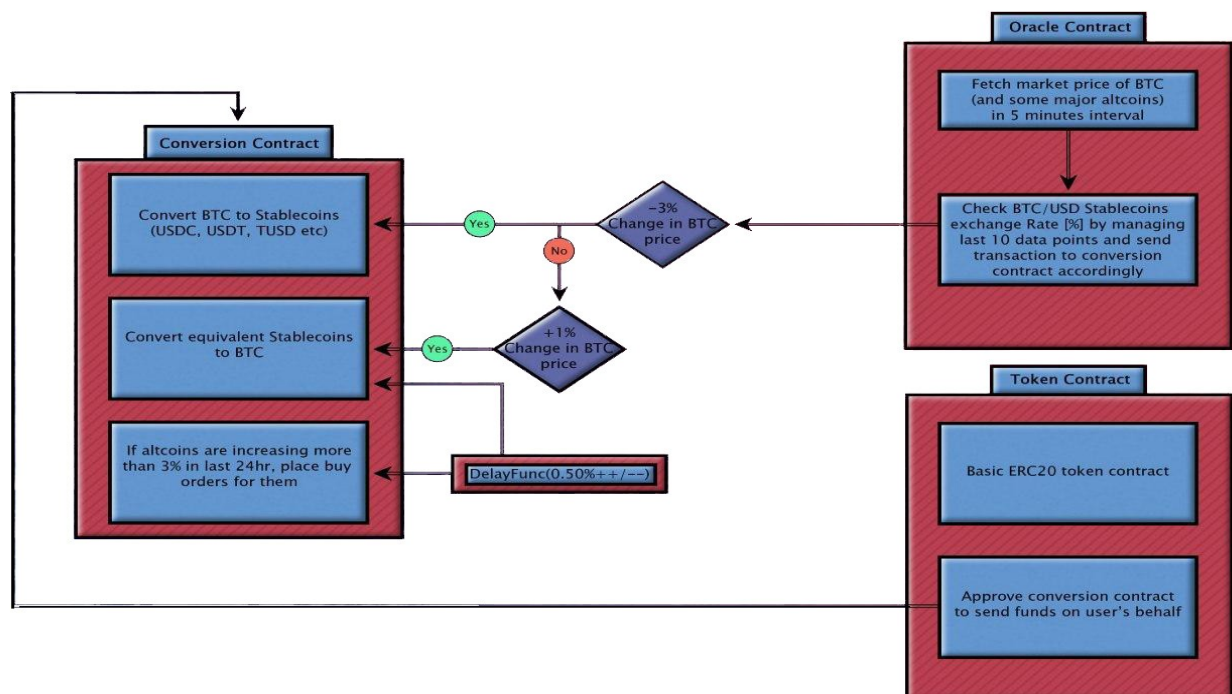

Figure 2: Implementation of multiple smart contracts to engineer BTCsub Quant Hedge Fund DeFi protocol

BTCsub is being launched as an ERC20 token internally interconnected with two more smart contracts, Conversion and Oracle contracts and token on Ethereum

blockchain soon. And it will be integrated with most popular mobile and desktop 3multiassets cryptowallets including Atomic and MEW wallets. BTCsub token will listed and tradable on Kyber, Uniswap, Airswap and Binance DEX decentralized cryptoexchanges.

BTC DAO for Protocol Governance

BTCsub protocol will be governed by a Decentralized Autonomous Organization, BTCsub DAO. All BTCsub token-holders are entitled to introduce new amendment proposals and vote on it. Greater the number of tokens a token-holder has in his wallet, more voting right that token-holder commands. The following diagram describes the flowchart of such proposal votings.
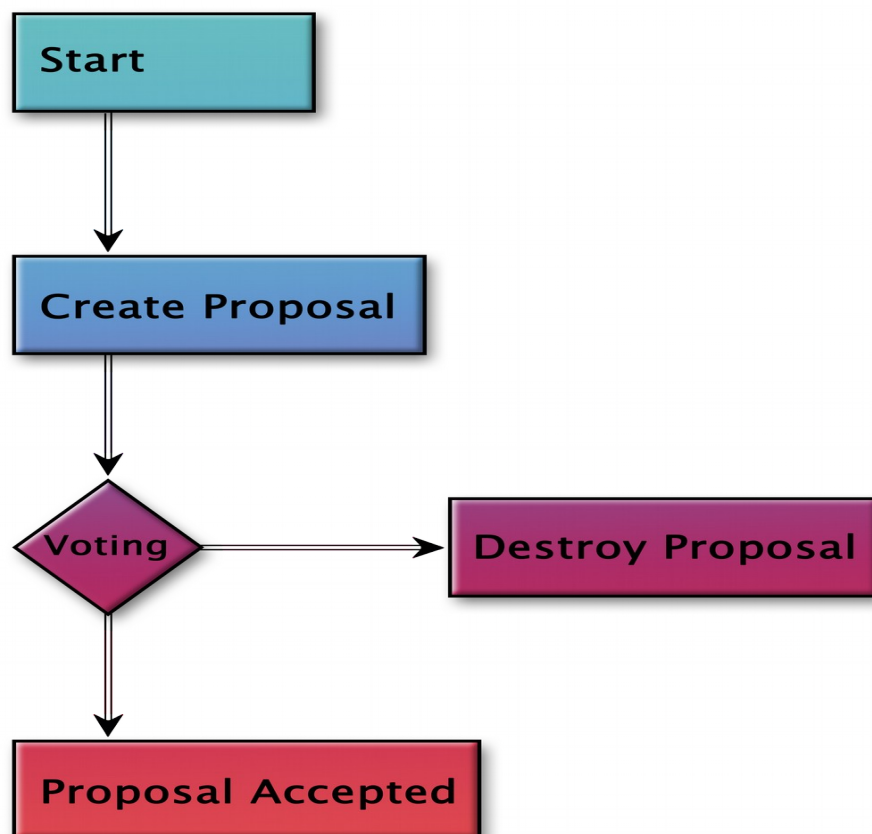

Figure 3: Protocol Governance Process

Protocol Reserve Fund

90% of stablecoins and BTC/altcoins under management of BTCsub protocol will be automatically invested in counterparty-riskfree ultra-short-term flashloans thru   3

various DeFi protocols. This is necessary in order to generate cash thru interest earnings and pay for the blockchain transaction fees due to automated reshuffling of assets under management.

Token Economics

The maximum supply of BTCsub tokens has been hardcapped at 108 Million. But initially only 21million BTCsub tokens will be markle mined. Farther merkle mining decision will be passed thru voting of token-holders and BTCsub DAO.
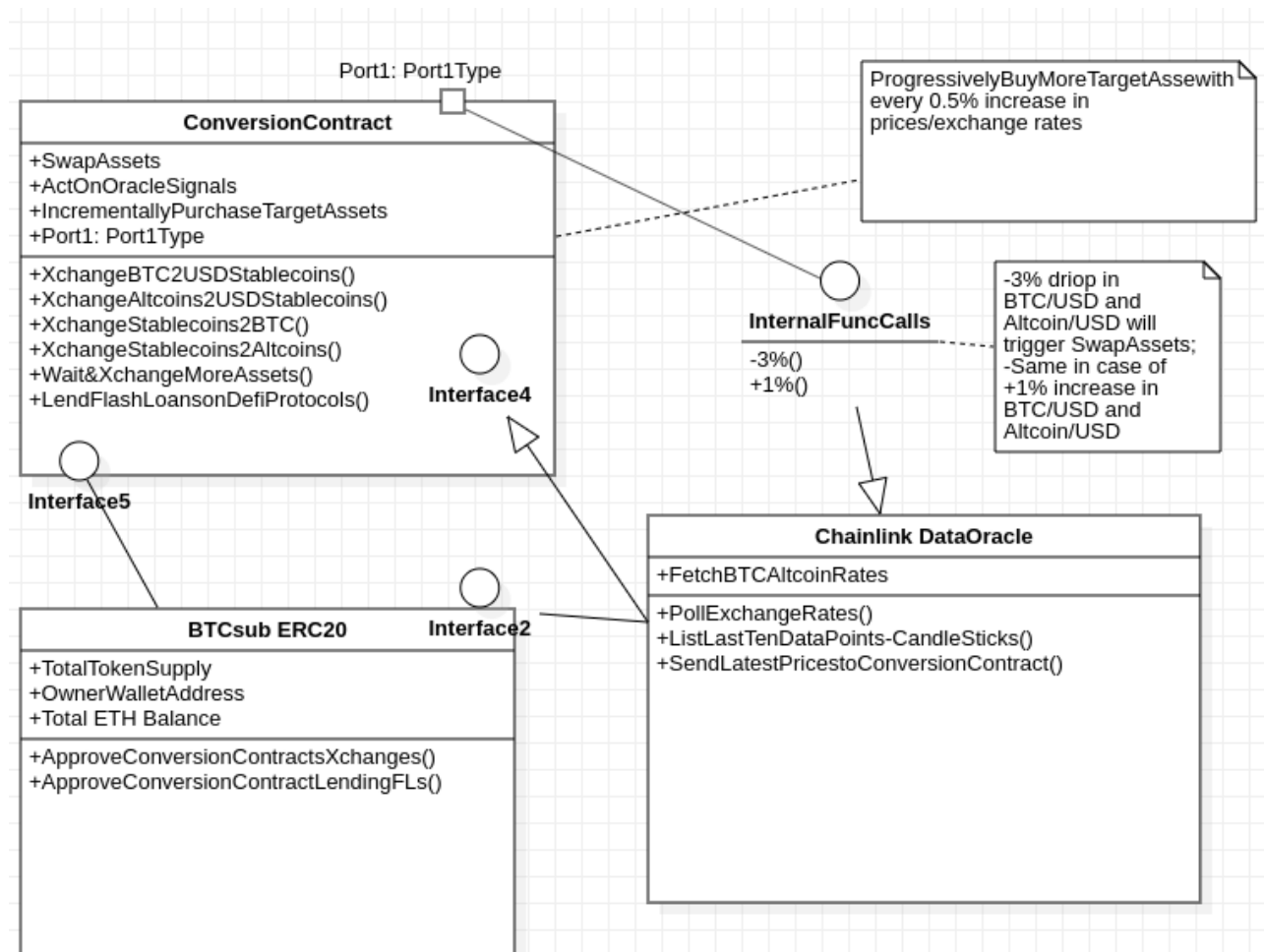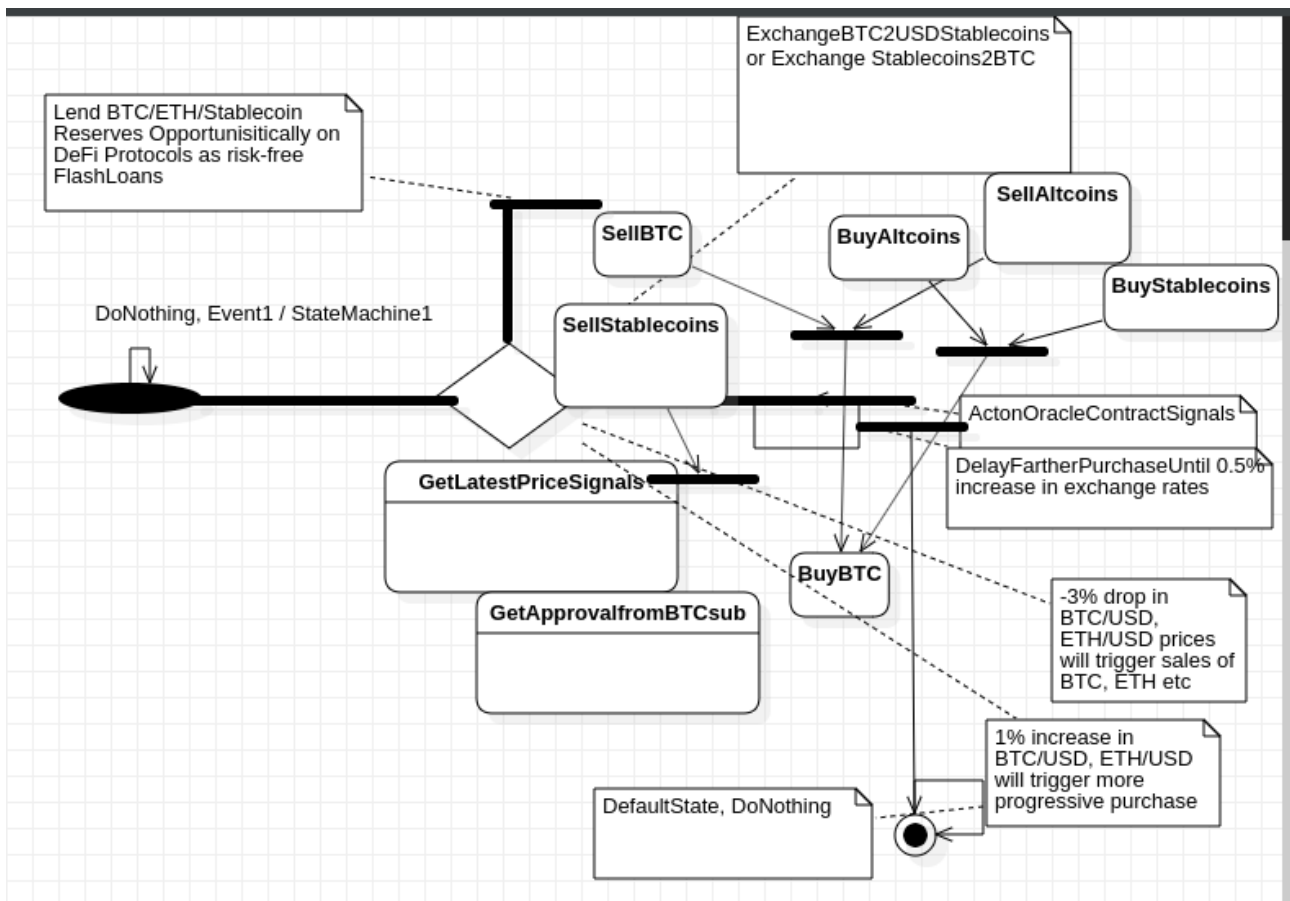

Figure 4: Class Diagram of BTCsub QHF Protocol

Figure 5: State Transition Diagram

Future Evolution

BTCsub DAO will launch a new class of non-fungible digital assets or practical collectibles to be tokenized by ERC-721-like smart contracts that will be embedded in decentralized discovery and self-learning self-planning engines and autonomous agents.

Each of these discovery engines and autonomous agents will be endowed with unique higher-ordered cognitive capabilities 1. such as predicting prices of financial asset and commodities accurately 99% percent of the time; 2. solving engineering, scientific and mathematical problems without human interference; 3. Composing new music and populating as unique characters/actors in #D worlds of video/AR/VR games and movies.