Curve

Curve is an exchange liquidity pool on Ethereum designed for extremely efficient stablecoin trading and low risk, supplemental fee income for liquidity providers, without an opportunity cost. Curve allows users to trade between correlated cryptocurrencies with a bespoke low slippage, low fee algorithm. The liquidity pool is also supplied to a lending protocol where it generates additional income for liquidity providers.

It utilizes a cleverly designed invariant called Stableswap that allows the slippage to be really low while the pool remains balanced while also behaving like the Uniswap invariant when it becomes imbalanced. It manages to do that by leveraging powerful and complicated mathematics.

Curve also designed a more efficient invariant for regular swaps than the Uniswap invariant called the CurveCrypto invariant. Again they manage to do so by leveraging even more complex mathematics.

Curve utilices Aragorn to connect all the smart contracts that compose it. But it differs in the usual voting system used in Aragorn by introducing a Time-weighted voting system where the value of a vote is determined by the amount of $CRV locked and the time they will be locked. $CRV is designed to allow a piecewise linear inflation schedule. Only the Minter contract can directly mint $CRV, but only within the limits defined by inflation. Each time the inflation changes, a new mining epoch starts. All of the inflation is distributed to users of Curve, according to measurements taken by gauges.

Gauges are Curve’s tool to measure the usage of the protocol for every user. Currently the LiquidityGauge measures how much liquidity a user provides and liquidity provided for insurance. The coin rates which the gauge is getting depends on current inflation rate, and gauge type weights (which get voted on in Aragon). Each user gets inflation proportional to his LP tokens locked. Additionally, the rewards could be boosted by up to a factor of 2.5 if user vote-locks tokens for Curve governance in VotingEscrow.

Users can allocate their vote-locked tokens towards any Gauge and it will be getting a fraction of CRV tokens minted proportional to how much vote-locked tokens are allocated to it. Each user with tokens in VotingEscrow can change their preference at any time.

Every Gauge allows the admin to collect fees that can be used later Every pool allows the admin to collect feesEvery pool allows the admin to collect fees to buy and burn CRV on a free market once that free market exists.