Project Name:

Curve

Author Name:

WormholeOracle (Discord: WormholeOracle#6470, TG: @WormholeOracle)

I understand that I will be required to provide additional KYC information to the Optimism Foundation to receive this grant:

Yes

L2 Recipient Address:

0xD166EEdf272B860E991d331B71041799379185D5

Which Voting Cycle are you applying for?

: Cycle #8

Grant category:

DeFi

Is this proposal applicable to a specific committee?

DeFi committee

Project description:

Curve is a multichain AMM exchange specializing in concentrated liquidity. Curve is designed for extremely efficient stablecoin trading and low risk, supplemental fee income for liquidity providers.

Project links:

Website: https://curve.fi

Twitter: @CurveFinance

Discord/Discourse/Community: Discord: Curve Finance, Telegram: Contact @curvefi

Please include all other relevant links below: Curve on Optimism-https://optimism.curve.fi/

Additional team member info:

Curve Founder TG handle- @michwill

Please link to any previous projects the team has meaningfully contributed to:

Michael was a founder and CTO ofNuCypher, now known as Threshold Network.

Relevant Usage Metrics:

- TVL on Optimism: $31.73m

- TVL across all chains: $5.67B

- Weekly volume on Optimism: $7,142,872

- A fantastic Dune Analytics dashboard for Curve metrics

Data sourced on August 28, 2022

Competitors, peers, or similar projects:

Uniswap

Is/will this project be open sourced?

Yes

Optimism native?:

No

Date of deployment/expected deployment on Optimism:

Currently Deployed

Ecosystem Value Proposition:

Curve is the backbone of the burgeoning DeFi industry. It touches every piece of the stack and strengthens every integrated protocol. There is opportunity for Optimism to leverage Curve's foundational role to further support its vibrant ecosystem.

Applications integrated into Curve have realized novel use cases. Synthetix heavily utilizes Curve for synth liquidity. Their atomic swap functionality recently integrated with Curve has produced staggering revenues for Synthetix stakers.

The stableswap algorithm, well known for enabling deep liquidity and low slippage swaps, has built a reputation for stabilizing pegs and enhancing stablecoin utility. See: FRAX, 3CRV

Curve has a number of integrations with lending markets and yield bearing derivatives. Swap fees compound the interest generated from these activities. See: Aave, stETH

Highly configurable V2 pools are unlocking new potential for FX markets and volatile crypto pairs. The concentrated liquidity algorithm offers advantages to LPs and traders, combining a composable AMM design with low slippage swaps. See: Tricrypto, eursusd

Curve also needs Optimism.

A recent Delphi article demonstrated that although Curve regularly quotes better pricing than competitors, it underperforms on volume due to mainnet gas costs. Curve requires a scalable L2 where it can absorb liquidity and realize its potential. Optimism is the ideal partner in this regard.

Has your project previously applied for an OP grant?

No

Number of OP tokens requested:

504,828

Did the project apply for or receive OP tokens through the Foundation Partner Fund?:

In Process

If OP tokens were requested from the Foundation Partner Fund, what was the amount?:

Undetermined, in process

How much will your project match in co-incentives?

The distribution method will ensure that Curve matches incentives with its own emissions. As will be explained in the token distribution section, OP will be used as vote incentives to pay veCRV voters who gauge weight Optimism pools. While not possible to predict the dollar value of emissions from this strategy, historically >$1 of emissions are produced from $1 of reward deposits. It is commonly considered a capital efficient way to attract TVL, and would create a market dynamic that guarantees Curve will be offering co-incentives.

Additionally, a virtuous cycle is created from the bootstrapping phase. Increased incentives attract LPs → Influx of liquidity stimulates utility of Optimism pools → Utility incentivizes veCRV to more heavily weight those pools → Incentives attract more LPs to Optimism.

Curve's inflation schedule takes place over the course of ~250 years, so Optimism can be confident that there are many years of incentives ahead.

Proposal for token distribution:

How will the OP tokens be distributed?

100% of OP will be distributed as vote incentives for veCRV voters who direct CRV emissions toward Optimism pools.

Curve Gauge

veTokenomics, first implemented by Curve, give vote locked tokenholders control over directing inflationary token emissions. A popular strategy used by many protocols is to exchange their native token for Curve emissions to their pools. The OP will be distributed in much the same way, offered as incentives for "gauge weighting".

Curve uses a [gauge weight mechanism](), the process which directs CRV emissions. Pools receive a gauge by passing an on-chain DAO vote. veCRV owning governance participants vote weekly on where to allocate inflation, which may be pools on any network, including Optimism.

Each week, the RootChainGauge

on Ethereum mints all CRV emissions of the previous week and transfers them over the Optimism bridge where they are received to a ChildChainGauge

contract deployed to the same address. After checkpointing, they are transferred to the ChildGaugeFactory

, the contract which handles distribution to all gauges on Optimism.

Contract Name

Contract Address

ChildGaugeFactory

[0xabC000d88f23Bb45525E447528DBF656A9D55bf5]()

This decentralized mechanism for rewards distribution distributes CRV to LPs. There are currently five pools with gauge on Optimism ([sUSD](), [sETH](), [sBTC](), [3pool](), and [FraxBP]()), although the number of pools and opportunities for LPs will be increasing over time.

Current Optimism Gauges Eligible for Incentives:

Pool Name

Gauge Contract

sUSD

[0xc5aE4B5F86332e70f3205a8151Ee9eD9F71e0797]()

sETH

[0xCB8883D1D8c560003489Df43B30612AAbB8013bb]()

sBTC

[0x172a5AF37f69C69CC59E748D090a70615830A5Dd]()

3pool

[0x15F52286C0FF1d7A7dDbC9E300dd66628D46D4e6]()

FRAXBP

[0x4B960396011A914B4ccCC3b33DFEE83A97A9D766]()

Votium

[Votium]() is the most widely used service for participating in Curve vote incentives. Depositers can deposit a reward token and specify a specific gauge. Then, during each gauge weight round, CVX and veCRV tokenholders who voted for that gauge can claim their portion of the reward.

Although this process has always taken place on mainnet, the Votium team has agreed to deploy their contracts to Optimism so that OP can be distributed on its native network. They generate a merkle proof from votes cast, so can easily determine the correct value each voter is entitled to, and therefore voters simply claim rewards from their Optimism address.

Votium contracts deployed to Optimism:

Pool Name

Gauge Contract

Gnosis Safe

[0x3A84A0517F3175c0F84ac98DDF5045418D751fdd]()

Deposit address

0x3299Ef424fd225f07eF614B4C9E8a591490Fb564

Fee address

0x5F9f852d3B04c22a43B44EaC364c91252882C7e8

Merkle Distributor

0xA4cdaCBf6cD74eaFBB785064B03B9eD11ec377ff

Merkle Controller

0x25E39DE2678C59983738134d8DA1953D0191e53F

Distribution Plan

We plan to deposit OP each week as vote incentives to veCRV voters on Votium Optimism. The weekly allotment will be 42,069 OP/week for 12 weeks.

The recipient address is a L2 vault smart contract deployed as part of Curve's cross-chain governance system. Tokens sent to this vault are controlled by veCRV voters on mainnet via on-chain governance, making use of Optimism's own messaging bridge to relay the data. Funds sent to the contract are only accessible by Curve DAO.

A distribution contract will be deployed that trustlessly carries out the following strategy. This strategy will be initiated using the cross-chain governance system.

The OP rewards will be evenly divided between all existing gauges and deposited each week as vote incentives to Votium Optimism. If a new gauge is added to the gauge controller, it will be added to the distribution in the following weekly cycle.

There are currently 5 gauges on Optimism, so each would receive 8,413.8 OP/week of incentives. If a new gauge is voted in, making a total of 6 gauges, each would receive 7,011.5 OP in the next cycle. The median Votium incentives toward CVX in the last 5 bribe rounds has been ~$50k-90k/week by protocol. At current valuation (October 13,2022), the proposed incentive amounts to ~$33k/week, putting it slightly below the median. We expect to see an influx of LPs from mainnet to Optimism as gauge weighting shifts toward Optimism pools as a result of these incentives.

Note that the proposed strategy for receiving and distributing OP never involves custody of funds by Curve team, some other admin, or any multisig. Management is handled entirely by Curve DAO and the use of trustless smart contracts.

How will this distribution incentivize usage and liquidity on Optimism?

Curve's stableswap AMM excels for pools involving like-kind assets. LP's are attracted to these pools as a way to earn real yield from swap fees, while mitigating the risk of impermanent loss (as assets supplied to Curve pools are expected to be mean reverting). This is an expectation of increased assets bridged to Optimism, largely stablecoins, as LPs seek superior yield opportunities on Curve.

Users trust the design, implementation, and security of Curve's contracts. Curve has been live on mainnet since early 2020, and has subsequently expanded to a number of side-chains and L2's. Its system is robust and battletested. Thanks to the integrity of its team and its brand, Optimism will surely see LP's onboard en masse to its incentivized pools.

Once onboarded, the goal is to retain LPs on Optimism. Early converts incentivized with a stake in the network are more likely to express long term loyalty toward Optimism. Curve LPs are power users, some of the most capable at traversing the DeFi landscape. Whereas most protocols regard liquidity as mercenary, Curve has found an enduring alignment with its LPs, largely thanks to veTokenomics. Optimism has this opportunity to make allies of the best DeFi has to offer.

Why will the incentivized users and liquidity remain after incentives dry up?

Curve's value proposition has not only attracted individual depositors, but has spawned new categories of DeFi application as protocols build their services around Curve. When these applications establish themselves, liquidity becomes anchored on Curve.

- Use case 1: Synthetix and Curve have a deeply intertwined history that began with the need for Synthetix to offer low-slippage exposure to their sTokens. The partnership eventually expanded with the ability to accomplish cross-asset swaps using a combination of Curve and Synthetix. Now atomic swaps are fully realizing this functionality. For example, a user might swap USDC → sUSD on Curve, sUSD → sETH on Synthetix, and sETH → ETH on Curve, all in a single transaction. This is a powerful tool for LPs, who can provide liquidity in a single token without exposure to impermanent loss. Both Curve and Synthetix are seeing a surge in volumes thanks to this functionality.

- Use case 2: Yearn was one of the first protocols built on Curve with their Y pool. They essentially invented the yield aggregator that kicked off the farming craze of 2020. Their service involves accepting user stablecoin deposits and optimizing yield on those assets across several lending applications (later expanding to a variety of other strategies). Its viability depends on Curve's deep liquidity and the assurance that their users can withdraw their stables without suffering impermanent loss. This use case was simply not possible before Curve.

- Use case 3: Lido has chosen Curve as the source of liquidity for their liquid staked ETH derivative, stETH. Their service involves accepting user deposits of ETH and staking them on the ETH2 beacon chain. While deposits are temporarily locked before the merge, the [stETH pool](#) allows depositors to exit their position back to ETH. The deep liquidity and composability offered by Curve's stableswap AMM made it an excellent choice for Lido's integration.

From these examples, it is evident that Curve is foundational to the DeFi ecosystem. It does not exist in isolation, but rather as a building block for novel use cases. Once those applications establish themselves, liquidity becomes firmly cemented within Curve, ultimately becoming the fuel that powers the Optimism flywheel.

Over what period of time will the tokens be distributed?

The distribution will take place over 12 weeks (42,069 OP will be distributed weekly for the total of 504,828 OP).

Feedback Summary from Discussion (Oct. 13, 2022)

feedback in bold, followed by author's response

The proposed 5 month distribution is too short, should increase duration.

The proposed 1,000,000 OP is too much, should decrease requested amount.

The proposal has been revised to be a shorter duration, requesting less funds. The intention is to show positive results for Optimism that will support a case for a second round of incentives in the future.

Number of incentivized pools seems limited and mainly Synthetix pools. Core pools should have gauges, such as Tricrypto [ETH, BTC, USDT] and 3pool [USDT, USDC, DAI].

When the proposal was first written, only Synthetix pools had gauges on Optimism. Since then, 3pool and FraxBP have received gauges on Optimism. These are basepools and set a foundation for liquidity on Curve Optimism.

Curve is not an Optimism native platform, so governance involving addition of gauges and gauge weighting (a requirement for pools to begin receiving OP) would require activity on main net Ethereum. Additionally, the admin fee returns 50% of swap fees to token holders on main net.

This line of reasoning takes the position that Ethereum mainnet and Optimism are somehow in competition. While the argument involves ideology, ultimately it is the ambition for Optimism to absorb liquidity most effectively. It is clear that the liquidity Curve draws to Optimism through incentivized pools far outweighs any fees sent to mainnet. Votium will launch contracts for vote incentives on Optimism, so the incentive program will take place directly on Optimism.

Gauge weighting is a decentralized mechanism collectively controlled by all veCRV. This makes a commitment of co-incentives from Curve side an uncertain proposition.

The first draft of this proposal planned to distribute OP to Curve LPs, and had no way to predict co-incentives because the gauge weight system is decentralized. The updated proposal instead plans to distribute OP as vote incentives for gauge weighting so there will be an economic motive for voters to direct co-incentives toward Optimism pools. This process historically results in >$1 emissions per $1 of reward deposit (over 100% incentive matching).

Bribes are a more cost effective way to increase TVL

This proposal was updated from distribution to LPs to distribution as vote incentives. The Balancer proposal was used as a model for this updated proposal.

OP reward should be proportional to the amount of CRV allocated to pools each week, as opposed to the fixed rate of distribution laid out in the proposal.

This suggestion was made to ensure that CRV is adequately co-incentivizing the pools. The updated proposal addresses the request to guarantee co-incentives from Curve.

veFunder multisig as recipient address is misleading. Members are not part of Curve core team and therefore possibly a higher risk recipient

Although the official Curve Twitter [voiced support](#) of the proposal and veFunder as a recipient, we have opted to create a trustless solution whereby the recipient is a smart contract governed by Curve DAO. Distribution is also handled by a contract. There is no longer any question of recipient trust involved with this proposal.

Distribution plan is clear and straightforward. OP is not retained by the team/protocol, but instead is distributed entirely to LPs who are Optimism's user base.

This praise was given to the first proposal, which planned to distribute OP to LPs. Now OP is planned to distribute to veCRV voters as gauge weighting rewards, and will be available for claim on Optimism. It remains true that no OP is retained by the team or protocol.

Increased incentives on Curve could attract prominent partners such as Lido to make their products the primary venue on Optimism.

Competition is not a zero sum game. Increasing TVL on Curve will benefit all trading venues on Optimism.