title: [ARFC] Add rETH to Aave V3 Arbitrum Liquidity Pool

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References

Website: https://rocketpool.net/ 14

Whitepaper: Rocket Pool — Staking Protocol Part 1 | by David Rugendyke | Rocket Pool | Medium 4

Documents: Developer Documentation | Rocket Pool 2

Dune: https://dune.com/rp_community/rocketpool 8

Github: Rocket Pool · GitHub

Source code for the system(s) that interact with the proposed asset,GitHub - rocket-pool/rocketpool: A next generation decentralised Ethereum proof of stake network and pool, currently in beta and built to be compatible with Ethereum 2.0 and the Beacon Chain.

Arbitrum Contract Address: Rocket Pool: rETH Token | Address 0xec70dcb4a1efa46b8f2d97c310c9c4790ba5ffa8 | Arbiscan

Audits

- 4/2021: Rocketpool | ConsenSys Diligence
- 5/2021: https://rocketpool.net/files/sigma-prime-audit.pdf 1
- 9/2021: publications/RocketPool.pdf at master · trailofbits/publications · GitHub 1
- 11/2021: https://rocketpool.net/files/sigma-prime-fix-review.pdf
- 6/2022: https://rocketpool.net/files/sigma-prime-audit-redstone.pdf
- 6/2022: https://rocketpool.net/files/consensys-audit-redstone.pdf
- Bug Bounty: Rocket Pool Bug Bounties | Immunefi

Communities

- Discord - https://discord.gg/ysfY9hU31
- Governance Discussion - Governance - Rocket Pool Forum
- Governance Voting - https://vote.rocketpool.net/#/ 2
- Twitter - https://twitter.com/Rocket_Pool
- Reddit - https://www.reddit.com/r/rocketpool/

Summary

This publication presents the community an opportunity to add rETH to the Arbitrum v3 Liquidity Pool.

Motivation

rETH is listed on Aave v3 Ethereum and has over $20M of deposits. Rocket Pools is expanding its support for rETH across the L2 ecosystem, first Optimism, now Arbitrum and soon Polygon. There are currently only Chainlink Oracles for Arbitrum and Ethereum. Thus, this publication presents listing rETH on Arbitrum ahead of Optimism.

A new rETH liquidity pool and gauge has been created on Balancer v2 Arbitrum for rETH/bb-a-wETH. This pool will deposit wETH into Aave v3 on Arbitrum. Incentives are expected to follow soon. This publication is early and provides risk service providers adequate time to review the asset listing parameters whilst liquidity continues to grow.

LST collateral types drive material borrowing revenue to Aave as users deposit the LST and borrow the corresponding network token. This is most evident on Ethereum where the LST- and wETH-yield-maximising loop is the source of the vast

majority of wETH borrowing demand.

By providing LST diversification, Aave presents itself as a neutral platform offering users the choice between various LSTs. An added benefit of offering a variety of LSTs is the respective communities may elect to compete for user acquisition via Aave through offering incentives. This is currently happening on Aave v3 Polygon and Aave's TVL has meaningfully increased from a relatively small base.

Rocket Pool offers Aave v3 users on Arbitrum an alternative to wstETH.

Specification

1. What is the link between the author of the AIP and the Asset ?

Llama does not receive any payments from Rocket Pool.

1. Provide a brief high-level overview of the project and the token ?

Rocket Pool strives to embody the core ethos of Ethereum and DeFi, specifically the non-custodial, trustless nature that allows self-sovereignty to truly thrive. This leads to reduced Counter Party risk relative to other LST providers.

Rocket Pool stakers deposit ETH into the deposit pool, enabling a node operator to create a new Ethereum Network validator. You can stake as little as 0.01 ETH.

In doing so, users are given a token called rETH. rETH represents both how much ETH is deposited, and when the user deposited it. The ratio includes rewards that Rocket Pool node operators earn from:

- The Ethereum network itself
- Priority fees from block proposals
- MEV rewards from block proposals

rETH is a staked, interest earning wrapper of ETH that can be exchanged at any time. rETH is not a rebasing token and therefore represents a straight forward integration prospect for Aave.

Since the Beacon Chain rewards, priority fees, and MEV rewards will constantly accumulate, this means that rETH's value effectively always increases relative to ETH. The rETH/ETH exchange rate is updated approximately every 24 hours based on the Ethereum network rewards earned by Rocket Pool node operators.

For details on how to stake ETH with Rocket Pool, please refer to this linkhere. For those readers keen to learn more about rETH taxation implications, please refer to this link here.

1. Explain the positioning of the token in the AAVE ecosystem. Why would it be a good borrow or collateral asset?

By listing rETH as collateral, users benefit from staking rewards whilst taking out a loan.

Similar to other LSTs, there are a range of yield maximising strategies and lower carry cost leveraged trading strategies that users could deploy. Given the typically low borrowing cost for LSTs, users are able to borrow the LST and participate in yield strategies beyond the Aave protocol.

1. Provide a brief history of the project and the different components: DAO (is it live?), products (are they live?). How did it overcome some of the challenges it faced?

Rocket Pool is a first of its kind ETH Proof of Stake Protocol, designed to be community owned, decentralised, trustless and compatible with staking in Ethereum. It was first conceived in late 2016 and has since had over 5 successful public betas over the life span of ETH development.

Rocket Pool is designed to cater to two main user groups; those that wish to participate intokenised staking using rETH using as little as 0.01 ETH and those that wish to stake ETH and run a node in the network to help generate a higher return on investment than staking outside of the protocol due to commissions earned.

For more information on these two groups that make up the protocol, we'd highly recommendreading article one in our explainer series that goes into great detail on how users can participate, be it via tokenised staking or running a node in the protocol.

The core premise behind a protocol is to ensure the network is not beholden to any one party. This is a principle directly linked to Ethereum and ETH itself, and a mindset used at every stage of the process as Rocket Pool has evolved.

1. How is the rETH token currently used ?

The distribution of rETH is spread thinning across many addresses. According to Arbiscan, the largest holding is only 3.13%

of supply on Arbitrum.

rETH is new to Arbitrum and because of this, there are only a few extrinsic use cases. Providing liquidity on DEXs is one of the main use cases to date on mainnet and we expect this to be mirrored on Arbitrum. The new rETH/bb-a-wETH pool will soon receive incentives and will bootstrap a second liquidity pool complementing the existing Uniswap v3 pool.

With supporting liquidity and an oracle derived from DEX and CEX liquidity across several networks, Aave is positioned to be the dominant rETH lending/borrowing liquidity pool on Arbitrum. For reference, there is currently $20.03M of rETH deposits on Aave v3 Ethereum.

For further insights into how rETH is integrated across the ecosystem, please refer to this Rocket Pool community-maintained Defi Opportunities publication.

1. Emission schedule

There is no emission schedule. rETH is only minted when stakers deposit ETH into Rocket Pool for staking.

1. Token (& Protocol) permissions (minting) and upgradability. Is there a multisig? What can it do? Who are the signers?

rETH is minted when stakers deposit ETH into the Rocket Pool deposit pool, and rETH is burnt when stakers withdraw their ETH.

- The Rocket Pool contracts do not have permissions that grant administrators mint/burn capabilities
- Market data (Market Cap, 24h Volume, Volatility, Exchanges, Maturity)

Arbitrum:

- Market capitalisation: $3,656,243.14
- 24H Volume
- $324,000 Uniswap
- $324,000 Uniswap

Further information here: Rocket Pool Explorer and Dune

1. Social channels data (Size of communities, activity on Github)
2. Discord: 19,260 members
3. Twitter: 39,608 followers
4. Github: 106 followers
5. Contracts date of deployments, number of transactions, number of holders for tokens

The below applies to just rETH on Arbitrum:

- Date of deployment: Nov 19th 2021
- Number of transactions: 69,830
- Number of holders for token: 11,761 (liquidity pools are recorded as 1 address)

Technical Specifications

A comprehensive technical analysis has been conducted by the Maker DAO technical team here is their report:

- [rETH] ERC20 Token Smart Contract Technical Assessment

Security Considerations

RocketPool smart contracts have been independently audited by three audit firms:

- https://rocketpool.net/files/sigma-prime-audit.pdf
- Rocketpool | ConsenSys Diligence

- publications/RocketPool.pdf at master · trailofbits/publications · GitHub

There is currently an active bug bounty program on Immunefi:

- bug bounty: Rocket Pool Bug Bounties | Immunefi

Risk Analysis

A comprehensive risk analysis has been conducted by the Maker DAO risk team here is their report:

- [rETH] Collateral Onboarding Risk Evaluation

Risk Parameters

While we await input from the risk providers, Llama has prepared the following risk parameters to start the conversation.

Parameter

Value

Isolation Mode

No

Borrowable

Yes

Collateral Enabled

Yes

Supply Cap

325 units

Borrow Cap

85 units

LTV

67.00%

LT

74.00%

Liquidation Bonus

7.50%

Liquidation Protocol Fee

10.00%

Reserve Factor

15.00%

Variable Base

0.00%

Variable Slope 1

7.00%

Variable Slope 2

300.00%

Uoptimal

45.00%

Stable Borrowing

Disabled

Stable Slope 1

13.00%

Stable Slope 2

300.00%

Base Stable Rate Offset

3.00%

Stable Rate Excess Offset

5.00%

Optimal Stable to Total Debt Ratio

20.00%

Flahloanable

No

Siloed Borrowing

No

Borrowed in Isolation

No

The interest rate parameters mirror those of rETH on Ethereum, promoting consistency across the various Aave v3 deployments. An ETH nominated eMode is deployed on Arbitrum, but as rETH is not yet included in the v3 Ethereum eMode it has been excluded from this proposal.