Liquidity Dividends Protocol (LID)
Whitepaper v1.1.2

A solution suite for dividend bearing locked liquidity tokens.
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1. Overview

The Liquidity Dividends Protocol provides solutions for locked liquidity ERC20 tokens. Specifically, this whitepaper discusses the LID technologies (1) non-custodial presales that trustlessly lock liquidity in Uniswap, and (2) social staking system that rewards community members with bonus dividends. LID Protocol demonstrates the market demand for both of these novel technologies by implementing them on its own ERC20 token, LID.

LID's business model is a licensing and certification system. LID provides new ERC20 projects with technology and certifications, increasing investor certainty and reducing the barrier to entry for new projects to launch trustless Uniswap launches. The LID Dao receives a 5% fee from all LID Certified presales and LID Certified staking dapps. The LID token also implements a transfer tax, granting LID Token stakers 1.90% and the LID Dao 0.10% of all transfers.

2. Background

Little liquidity existed for low market cap ERC20 tokens before Uniswap. Centralized exchanges require expensive listing fees simply not affordable for early stage projects. The rate of growth of application layer blockchain technology was dramatically slowed by this lack of liquidity. Potentially valuable projects were left behind by investors concerned about their ability to sell these highly illiquid unlisted ERC20 tokens.

The emergence of Uniswap has created a massive rise in the number of low marketcap ERC20 tokens experimenting with new business models. Of these, the most fascinating dividend bearing tokens. These tokens usually have a source of revenue, such as from a transfer tax, that is trustlessly distributed to stakers who have locked their tokens into a smart contract. The result is a positive feedback loop as higher market capitalization drives activity, increasing dividends to stakers, increasing total locked supply, and thus increasing the value of the remaining unlocked tokens.

Of course, the dividend bearing token positive feedback loop fails without liquidity. Without liquidity, stakers have no guarantee that they will be able to exit when their personal financial situation requires it. The best dividend bearing tokens lock substantial Ether in Uniswap, guaranteeing liquidity for stakers. Many popular tokens have successfully followed this strategy to launch themselves from low to mid-market capitalization. The ability to scale marketcap increases funds available to the developers and community, resulting in more innovative blockchain applications.

Scammers have found new ways to exploit these advances. In the "rug pull", the scammer places liquidity into Uniswap, only to pull it out from the unsuspecting buyers at some future time. Some of these rug pull scams occur as quickly as 30 minutes after the launch of the token. Others occur after several days or over the course of weeks as liquidity is quietly reduced. The response by the application development community has been to create "Proof of Locked Liquidity" tokens where Uniswap liquidity is provably permanently and irrevocably locked into Uniswap, usually through the burning of liquidity pool tokens.

The Liquidity Dividends Protocol advances the development of dividend bearing Proof of Locked Liquidity tokens. It does so through three ways:
(1) LID Presale standardized non-custodial presale smart contracts that lock liquidity,
(2) LID Certification of Proof of Locked Liquidity tokens, and
(3) LID Staking providing incentives for stakers to provide additional value than just holding.

3. Licensed Non-Custodial Proof of Locked Liquidity Presales

The Liquidity Dividends Protocol has developed several innovative new technologies for trustlessly depositing liquidity generated via presale into Uniswap. Conceptually, these technologies are meant to reduce investor risk, increase funds raised, and encourage social participation.

- ### *Presale steps*

(1) The project team sets the starting price, rate of price increase
(2) The project team sets the token and ether allocations, with the restrictions:
  40% of tokens must be sold in the Presale,
  18.75% of tokens locked in Uniswap, and
  75% of raised ETH must be locked in Uniswap.
(3) The Presale starts at a selected timestamp.
(4) Buyers deposit Ether and immediately receive locked tokens at a linearly increasing rate.
(4) The Presale timer starts at a fixed amount and increases by:
  X hours for every 100 ETH raised, up to 1000 ETH,
  X hours for every 1000 ETH raised, up to 10000 ETH, and
  X hours for every 10000 ETH raised after the first 10000 ETH.
(5) Once the timer runs out, the presale closes.
(6) At presale close, tokens and ether are released as per the project team's token allocation plan, and liquidity is permanently locked in Uniswap through burning the generated liquidity pool tokens.
(7) Buyer's tokens are released at a continuous rate of 2%/hour over 50 hours.

The price difference between presale and Uniswap depends on how far the sale proceeds. It ranges from 60-10% higher than the final price at presale close, lower with bigger sale. Early buyers will see more of a post presale bump as an incentive to encourage early entry. Teams should keep the rate of increase of the token sale over its duration low enough to prevent excessive profits for early buyers but high enough to encourage early entry.

- ### *Presale referrals*

When purchasing from the presale, a set percentage of Eth is set aside for referrals. If a buyer uses a referral code, the referrer receives the referral percent instantly. For excess referral fees, they are added to the total Eth pool and distributed along all other Ether.

- ### *Presale mathematics*

These formulas are used to calculate price, eth raised, eth to deposit to Uniswap, and the rate of increase of the price as the sale continues.

```
PRICE = PRICE_MULTIPLIER * PRESALE_LID + STARTING_PRICE

PRESALE_ETH = (PRICE_MULTIPLIER/2) * PRESALE_LID ^ 2 + STARTING_PRICE * PRESALE_LID

TOTAL_LID = 2.5 * PRESALE_LID

UNISWAP_ETH = 0.75 * PRESALE_ETH

UNISWAP_LID = 0.4 * PRESALE_LID

UNISWAP_PRICE = 1.875 * PRESALE_ETH / PRESALE_LID
```

- ### *Sample LID Presale: The LID Token Presale*

The Liquidity Dividends Protocol demonstrates the market viability of LID Presales by applying the technology to its own LID Token Presale. The following values are used for the LID Token Presale and are suggested as starting points for any project desiring to run a LID Presale.

Constants:

STARTING_PRICE	2e-5
PRICE_MULTIPLIER	6e-13
START_TIMER	48 hours
TIMER_DELTA	8 hours
REFERRAL_FEE	2.5%
NONWHITELIST_CAP	1 ETH
WHITELIST_CAP	10 ETH + 2% of total ETH deposited

The presale price will be approximately the following, depending on current ETH raised:

ETH Raised	Final Price LID/ETH (Aprox.)	Presale LID (Aprox.)	Uniswap LID/ETH (Aprox.)
0	50,000	0	-
1,000	25,000	33,333,333	17,777
3,000	15,811	72,075,922	12,813
7,000	10,660	123,013,859	9,372
15,000	7,372	192,744,333	6,853

The presale will take the following amounts of time, depending on final ETH raised:

Total Hours	ETH Raised
88	500
120	1000
160	5000
200	10000
240	15000

Token Distribution:
5%	Event Fund
9%	Staking bonus
10%	Team (locked, released 0.33%/day)
20%	DAO fund (locked, released 0.16%/day)
16%	Uniswap
40%	Presale

Ether Distribution:
5%	Promotion
5%	Licensing Fee (Team)
15%	Team
75%	Uniswap

4. Licensed Socially Engaged Staking

Current staking solutions focus on solving the collective action problem of agents selling tokens in a cascading market collapse. LID Staking extends this solution to apply to Dao voting and promotion. Unlike other complex staking mechanisms by other protocols, LID Staking focuses on incentivizing stakers to perform useful actions for the community. The following details are for the LID token and may be modified for licensed LID Staking projects.

- **LID STAKING**

2% tax on all transactions, with tax exemptions for staking, but not unstaking, and Uniswap buys, but not sells. 5% of all dividends (that is, 0.05% of all transactions) are granted to the DAO fund. Tax exemptions will also be issued to other exchanges for LID purchases on request.

- **VOTING MULTIPLIER**

Every 30 days, the contract checks whether the voter has participated in at least 50% of DAO votes in the previous 30 days. A 2x multiplier is then applied to the staker's dividends based on their lowest balance during that 30-day period.

- **STAKING REFERRAL**

Staking has a 400 LID initial registration fee. If the staker uses a referral code, they receive a 50% discount to the fee. 100% of fees are paid to the referrer. Excess fees are added to the distribution pool.