ghostDAO



Cross-Chain DeFi 2.0

Lightpaper

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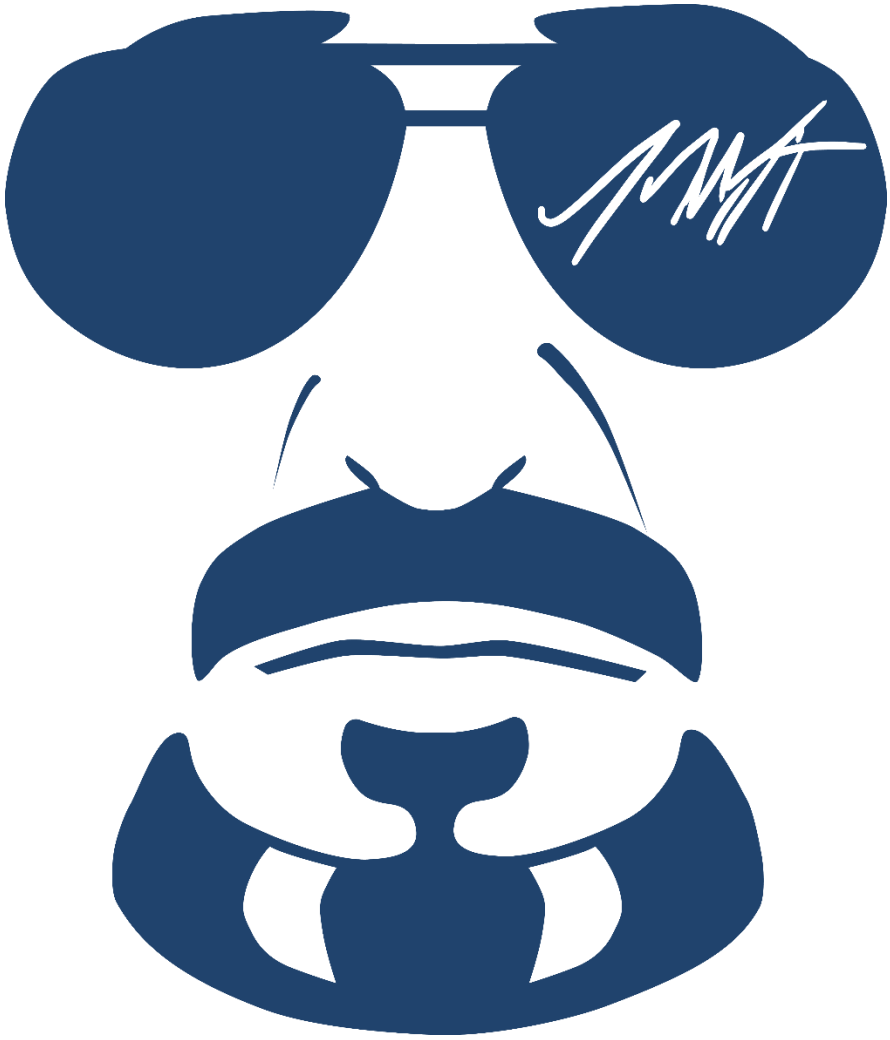
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“Any idiot can make money. Keeping money, very few can do.”

In memory of John McAfee.



Introduction

Bitcoin was invented in the aftermath of the 2008 financial crisis, and the crisis was a clear motivating factor for its creation. The financial system powered by Central Banks failed, leading to government bailouts of "too-big-to-fail" banks and financial institutions at the expense of taxpayers. Bitcoin was soon coined as "digital gold" due to its inherent scarcity, durability, portability, fungibility, verifiability, divisibility and other features.

DeFi became mainstream during the COVID-19 pandemic which demonstrated the fragility of the global economic system. A global sudden stop of economic activity caused by the pandemic was used by central banks to step in and initiate an unprecedented expansion of their balance sheets, which significantly boosted inflation. This money printing caused top corporations to gain enormous wealth while average taxpayers lost jobs and purchasing power of the currency they held.

The emergence of DeFi 2.0 initiatives validated the need for having a decentralized reserve currency backed up by digital assets, without necessity to peg its value to the U.S. dollar.

This is why **ghostDAO** was born.

ghostDAO helps an average global citizen fight against inflation while participating in the new digital economic norm of the future. ghostDAO project is inspired by John McAfee.

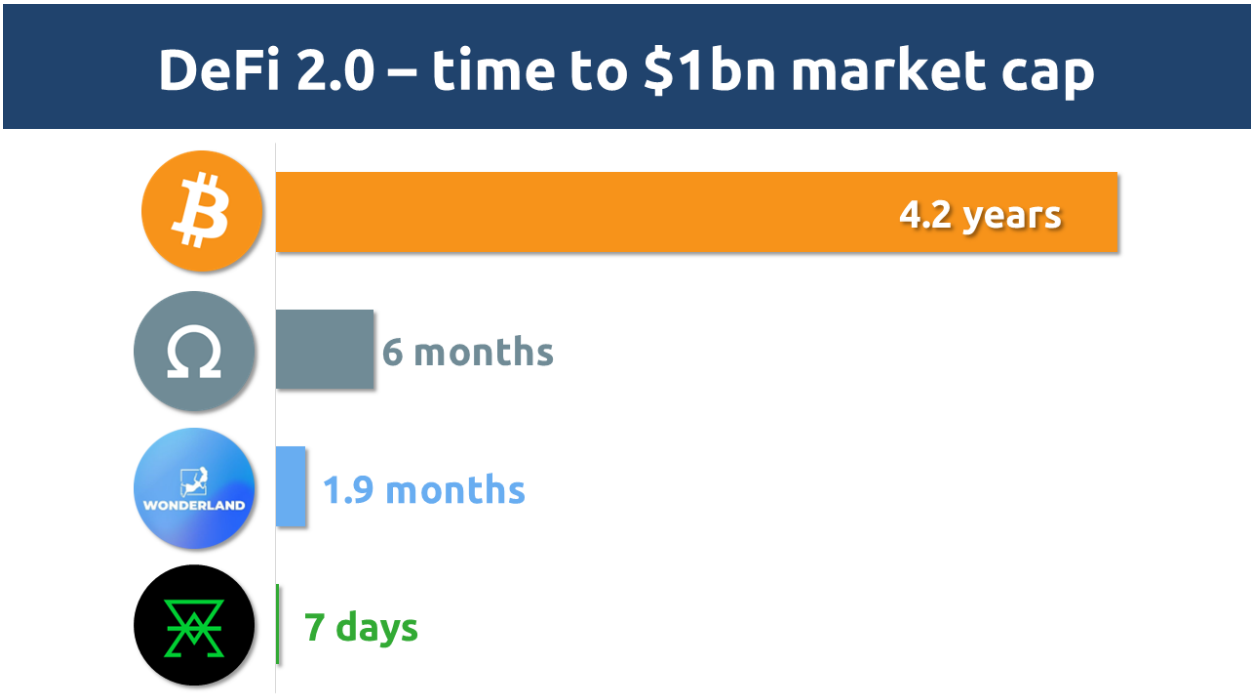


Figure 1. Time to $1 Billion Market Cap for DeFi 2.0 protocols.

DeFi 1.0 vs. DeFi 2.0

The DeFi 1.0 stage featuring Aave, Compound, Curve, Sushiswap, and Uniswap demonstrated the powerful capabilities of decentralized finance. While DeFi 1.0 still feels fresh and new, it is already getting antiquated as the DeFi 2.0 wave is slowly evolving.

DeFi 2.0 projects solve a number of problems the crypto community experienced with DeFi 1.0. Benefits include sustainable long-term liquidity, parting from fiat-backed stablecoins, decentralized governance, lower cost and superior user experience.

Most importantly, DeFi 2.0 solves the problem of mismatching incentives coordinating protocol stakeholders to achieve the same goal. DeFi 1.0 liquidity providers are not incentivized to help the underlying protocol with an option to withdraw their liquidity and crashing the price for the remaining participants. DeFi 2.0 addresses this issue by allocating a significant portion of the Liquidity Pool under the management of the protocol's DAO.

Lately, the crypto community became quite disappointed with low and unsustainable APY rates coupled with programmatic and market exploit vulnerabilities presented by DeFi 1.0 protocols. DeFi 2.0, on the other hand, was greeted with excitement and enthusiasm. The time to get to $1 billion market capitalization for DeFi 2.0 protocols has been steadily accelerating: six months for OlympusDAO, two months for Wonderland, and less than a week for KLIMA.

ghostDAO protocol is at the forefront of innovation with a goal to further shape the DeFi 2.0 space.

ghostDAO

ghostDAO is a decentralized multi-chain reserve currency protocol based on the eGHST token. ghostDAO protocol is powered by GHOST native blockchain enabling anonymous cross-chain transactions of GHST. Each eGHST token is backed by a basket of assets (DAI, USDC) in the ghostDAO treasury, giving it an intrinsic value that it cannot fall below.

Single-Chain Architecture

ghostDAO offers a number of functionalities to the user. User can stake, bond, sell, borrow, and bridge. The user can also become a DAO member. ghostDAO architecture encompasses the following utility tokens and pairs: eGHST, sGHST, GHST Token, GHST Coin, GMV, pGHST, and LP.

eGHST Token

eGHST is an EIP-20 compatible token with additional EIP-712, EIP-2612, EIP-3156, Access Control, and Safe Math functionality. eGHST also has functionality to mint, burn, and burnFrom due to elastic supply of sGHST.

sGHST Token

sGHST is an EIP-20 compatible token with additional EIP-712, EIP-2612, EIP-3156, Access Control, Safe Math and Rebasing functionality. sGHST is a receipt for the proportion of the total supply of eGHST. User receives sGHST at a 1:1 ratio to its staked eGHST.

GHST Token

GHST is an EIP-20 compatible token with additional EIP-712, EIP-2612, EIP-3156, and Safe Math functionality. The non-rebasing wrapper is used to package up sGHST in a non-rebasing container, which can be used as a DAO governance token. GHST will be swapped for a GHST native coin on a GHOST native blockchain at a 1:1 ratio.

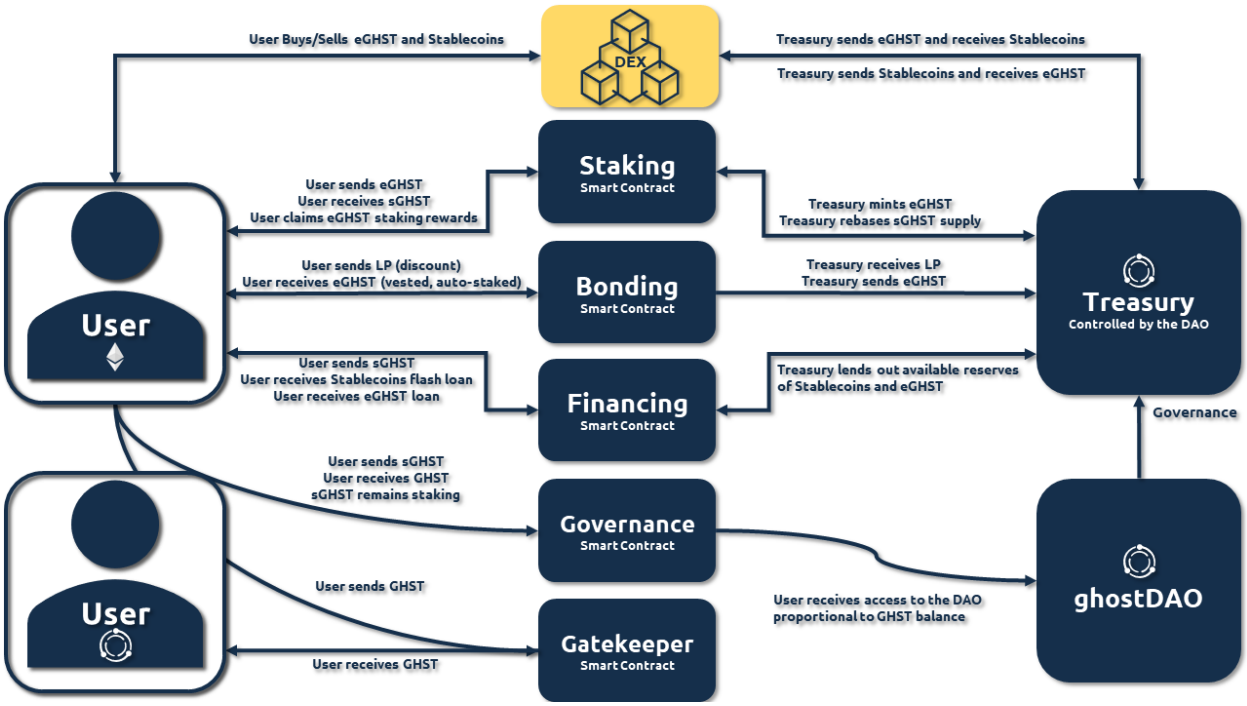


Figure 2. ghostDAO Single-Chain Architecture.

GHST Coin

GHST is a native coin on the GHOST native blockchain. GHST on Ethereum can be swapped for GHST on the GHOST native blockchain at a 1:1 ratio. GHST can be staked on a GHOST native blockchain as a validator or nominator.

GMV Token

GMV is an EIP-20 compatible token, which serves as a receipt for the proportion of the total supply of pGHST for early adopters. GMV tokens added as collateral to the JML NFT Collection is swapped for pGHST at a 1:1 ratio.

pGHST

pGHST is a precursor derivate of eGHST token. It gives the holder the option to mint eGHST by burning pGHST at a 1:1 ratio.

LP Token

LP is a Liquidity Pool on a decentralized exchange (e.g. Uniswap, Sushiswap) consisting of eGHST and a stablecoin. Examples of LP include eGHOST-DAI and eGHOST-USDC pairs.

Staking

Staking is the primary value accrual strategy of ghostDAO. Stakers stake their eGHST on the ghostDAO to earn rebase rewards. The rebase rewards are a function of the number of eGHST staked, and may vary based on the reward rate set by monetary policy. The rebase rewards are backed-up by the proceeds earned from crypto-bond sale.

Staking is a passive long-term strategy. The increase in stake of eGHST translated into a constantly falling cost basis converging to zero. Even if the market price of eGHST drops below initial purchase price the increase in staked eGHST balance should eventually outpace the drop in price, given a long enough staking period.

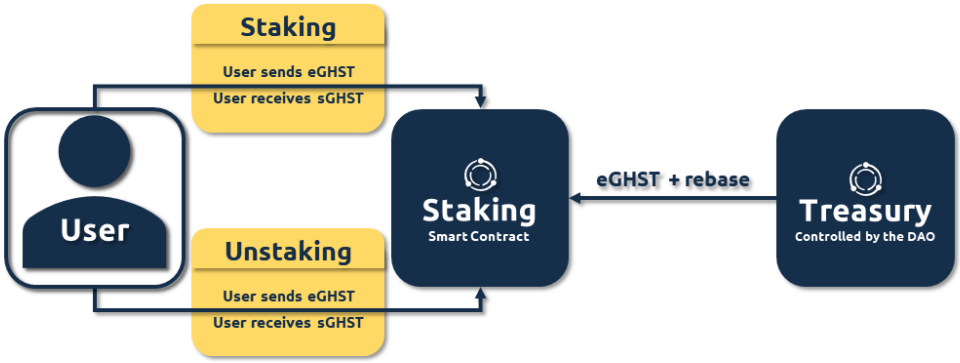


Figure 3. ghostDAO Staking Flow.

Staking is the process of locking eGHST in anticipation of earning eGHST staking rewards. Locked eGHST are exchanged for an equivalent number of sGHST tokens. sGHST balance automatically rebases at the end of every epoch. sGHST tokens are transferrable, allowing participation with DeFi protocols.

Unstaking of sGHST is the process of burning sGHST tokens in exchange of an equal number of GHST tokens. Unstaking means that the user is forfeiting upcoming rebase rewards. The forfeited reward is only applicable to the unstaked sGHST tokens; the remaining staked eGHST tokens will keep earning rebase rewards.

Bonding

Bonding is the secondary value accrual strategy of ghostDAO. The instrument of bonding enables ghostDAO to acquire its own liquidity and reserve assets (DAI, USDC) by offering eGHST at a discount in exchange for Stablecoins.

Every purchased bond contains the following terms: bond price, amount of eGHST owed to the bonder, and vesting schedule. Bonding design allows the bonder to claim eGHST rewards according

to the vesting schedule. The entire amount of eGHST owed becomes claimable at the end of the vesting period. Bonded eGHST can be staked while it is vesting.

Bonding is an active, short-term strategy. The price discovery mechanism of the secondary bond market renders bond discounts in pseudo-random manner. Bonding strategy needs to be monitored constantly in order to be more profitable, and is considered to be a more active strategy relative to staking.

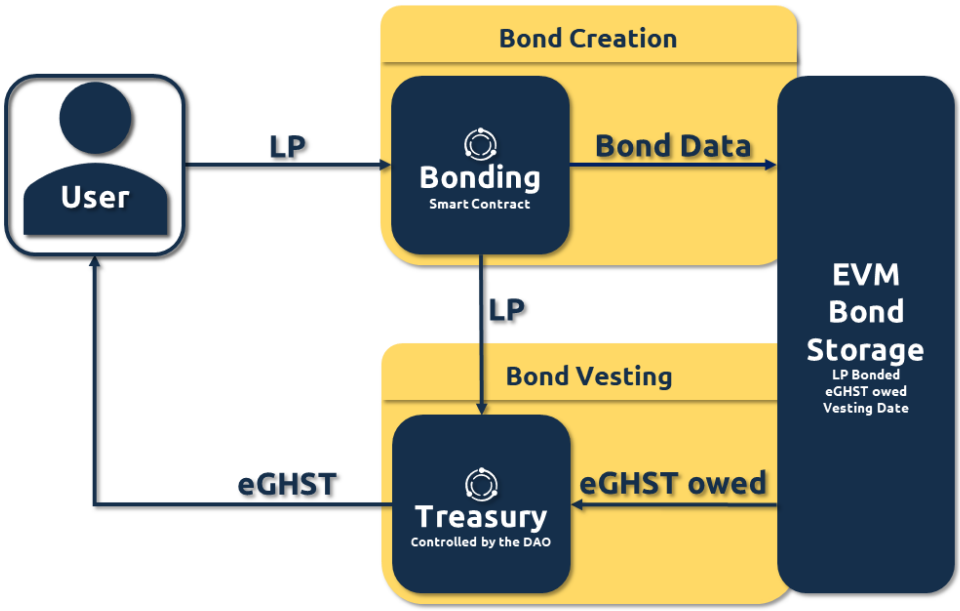


Figure 4. ghostDAO Bonding Flow.

Bonding allows ghostDAO to accumulate its own liquidity. Higher proportion of liquidity ensures there is enough exit liquidity, thus protecting significant protection to the remaining token holders.

Higher proportion of liquidity also enables secondary sources of revenue for the ghostDAO Treasury, thus increasing the value of backing assets.

Bridging

Bridging is the third value accrual strategy of ghostDAO, bringing innovation to DeFi 2.0 protocols. Decentralized bridging through GHOST blockchain enables ghostDAO to plug into liquidity on multiple popular blockchain networks, including but not limited to:

- Avalanche
- Binance Smart Chain
- Ethereum
- Fantom
- Solana
- Polygon

Integration with the GHOST blockchain allows to wrap GHST token from a public blockchain into GHOST native coin of the GHOST native blockchain (NPoS consensus) with consequent ability to earn staking block rewards as a validator and/or nominator.

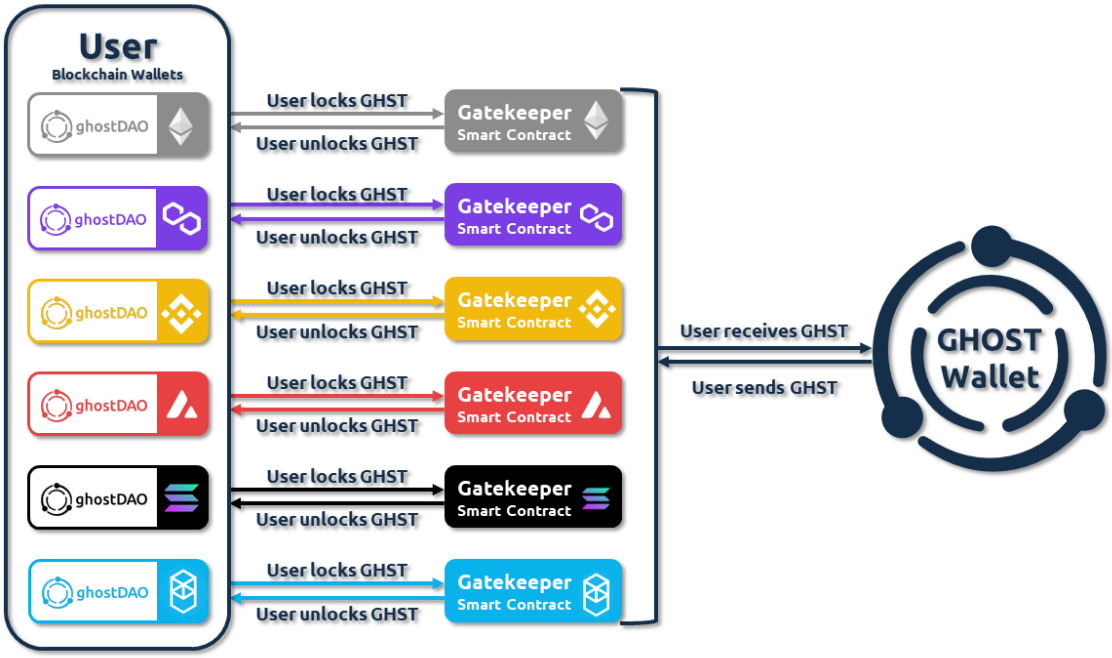


Figure 5. ghostDAO Bridging Flow.

Bridging is an active, short-term strategy allowing users to increase their respective share of the ghostDAO protocol. Bridging also allows users to take advantage of cross-chain price and staking arbitrage. Similar to bonding, bridging strategy needs to be monitored constantly to maximize protocol share ownership, while taking advantage of arbitrage opportunities presented by the market.

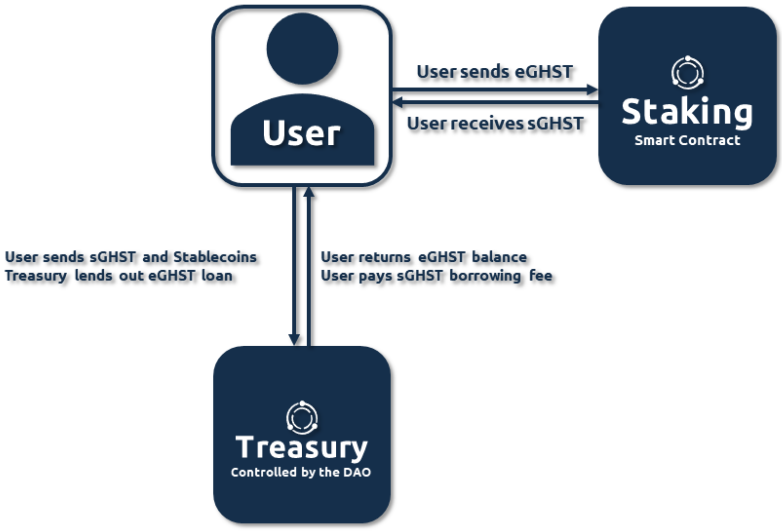


Figure 6. ghostDAO Financing Flow.

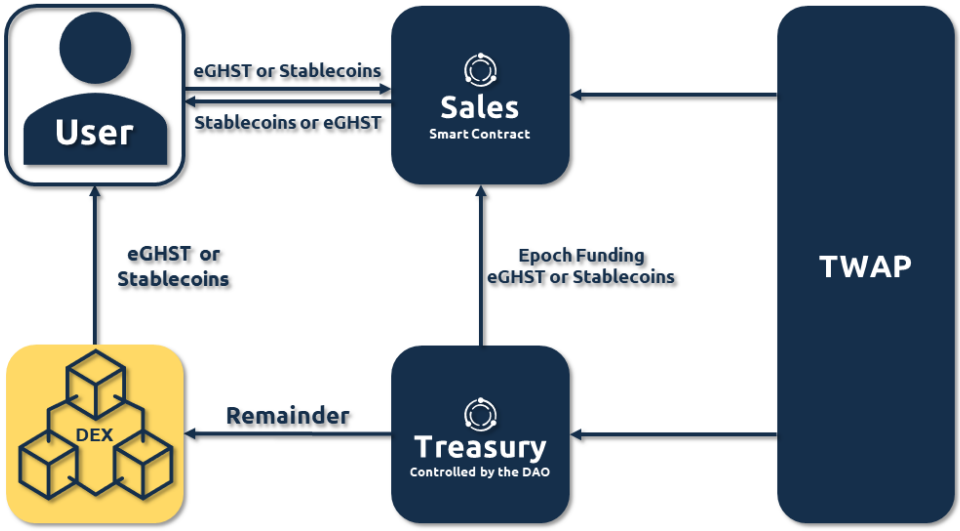


Figure 7. ghostDAO Selling Flow.

Financing

Financing is a strategy allowing to use excess Treasury deposits of stablecoins to be used for flash loan sub-system or other passive yield services. Financing enables leverage of the three strategies of Staking, Bonding, and Bridging by lending eGHST collateralized by sGHST and Stablecoins. Due to native financing features, ghostDAO protocol differentiates itself from existing DeFi 2.0 protocols that have to find extensions through external financing protocols.

Selling

Selling enables to exchange eGHST for Stablecoins. Stablecoins are extracted from the Treasury with the guarantee to maintain a floor price due to the backing by the Treasury assets. Treasury purchases eGHST to be sold by the user and burns it effectively raising the staking APY available for the remaining stakers. Incentive mechanics disincentivizes sellers to leave ghostDAO protocol, protecting the entire ghostDAO network against large and consistent selloffs.

Game Theory

The genius of Bitcoin was to combine technology innovation of distributed ledger with socioeconomic incentives in a form of block rewards for block miners. Such elegant combination made Bitcoin network sustainable. In the meantime, distributed ledger frameworks that did not integrate a form of socioeconomic incentives failed to achieve sufficient market adoption (e.g. Hyperledger, R3, etc.).

The approach of combining technology with incentive mechanisms based on game theory is powering DeFi 2.0 revolution.

ghostDAO brings a novel touch to the DeFi 2.0 space by offering protocol diversification, interoperability, privacy, and richer payout distribution. ghostDAO creates proper incentive architecture enabling stakeholders sustain the network without intervention of any central entity.

Let's take it one step at a time.

(2, 2) Classical Model

It all started with a classic $(2, 2)$ model. A user can take two actions:

- Buying $(+2)$
- Selling (-2)

Buying is considered beneficiary to the protocol, while selling is considered detrimental. If both players are beneficiary, they both get half of the upside $(+1)$. If both actions are detrimental, both actors get half of the downside (-2).

	Buy	**Sell**
Buy	$(3, 3)$	$(-1, 1)$
Sell	$(1, -1)$	$(-3, -3)$

Figure 8. (2, 2) Model.

The main problem of the $(2, 2)$ model is its zero-sum nature with 1 out of 4 possible outcomes being in the red (bottom right quadrant).

(3, 3) Model: Launch of DeFi 2.0

The genius of one of the most prominent DeFi 2.0 protocols, OlympusDAO, was to introduce bonding action, thus evolving $(2, 2)$ model into $(3, 3)$ model as presented on **Figure 9**.

	Stake (Buy)	Bond	Sell
Stake (Buy)	$(3, 3)$	$(1, 3)$	$(-1, 1)$
Bond	$(3, 1)$	$(1, 1)$	$(-1, 1)$
Sell	$(1, -1)$	$(1, -1)$	$(-3, -3)$

Figure 9. (3, 3) Model.

In $(3, 3)$ model developed by OlympusDAO, a user can take one of the following three actions:

- Staking (Buying) $(+2)$
- Bonding $(+1)$
- Selling (-2)

Staking and bonding are considered beneficial to the protocol, while selling is considered detrimental. Staking and selling will also cause a price move, while bonding does not. If both actions are beneficial, the actor who moves price also gets half of the benefit $(+1)$. If both actions are contradictory, the bad actor who moves price gets half of the benefit $(+1)$, while the good actor who moves price gets half of the downside (-1). If both actions are detrimental, which implies both actors are selling, they both get half of the downside (-1).

Introduction of bonding improved both the payout distribution and the outcome distribution. The payout average is 1.11, significantly reducing proportion of unfavorable outcomes (1 out of 9 outcomes being in the red).

Introduction of bonding ensured that OlympusDAO owns most of its liquidity with expectations of great benefits for the entire protocol.

Bonding was the source of genius and elegancy of DeFi 2.0 up until now.

(4, 4) Model: ghostDAO

ghostDAO protocol takes DeFi 2.0 innovation one major leap forward.

ghostDAO transforms a $(3, 3)$ model into a $(4, 4)$ model enabled by decentralized cross-chain interoperability designed by GHOST protocol.

Decentralized cross-chain interoperability significantly enriches the payout distribution due to additional feature of bridging. $(4, 4)$ model continues enforcing the Game Theory idea that cooperation of network stakeholders will generate the greatest gain for the entire network.

	Stake (Buy)	Bond	Bridge	Sell
Stake (Buy)	$(3, 3)$	$(1, 3)$	$(1, 3)$	$(-1, 1)$
Bond	$(3, 1)$	$(1, 1)$	$(1, 1)$	$(-1, 1)$
Bridge	$(3, 1)$	$(1, 1)$	$(1, 1)$	$(-1, 1)$
Sell	$(1, -1)$	$(1, -1)$	$(1, -1)$	$(-3, -3)$

Figure 10. (4, 4) Model.

In ghostDAO $(4, 4)$ model, a user can take one of the following four actions:

- Staking (Buying) $(+2)$
- Bonding $(+1)$
- **Bridging** $(+1)$
- Selling (-2)

Decision-making behind every action can be described as following:

- Players are expected to stake when they anticipate an expansion in supply and/or price;
- Players are expected to sell when they anticipate a contraction in supply and/or price and would like to leave the protocol thereafter;
- Players are expected to bond when they do not anticipate significant downside, but do not have strong directional bias;
- Players are expected to bridge when they anticipate an expansion in supply due to earning a higher ghostDAO staking APY on a different blockchain or earning GHOST block rewards in addition to ghostDAO staking APY rewards on the existing blockchain.

Staking, bonding, and bridging are considered beneficial to the protocol. Selling is considered detrimental.

Staking has the effect of pushing the price up $+2$. Selling has the effect of pushing the price down -2. Bonding has no price effect, but provides a discount of $+1$ to the bonder. Bridging has no price effect, but provides higher supply $+1$ to the bridger.

If both actions are beneficial, the actor who moves price also gets half of the benefit $(+1)$. If both actions are contradictory, the bad actor who moves price gets half of the benefit $(+1)$, while the good actor who moves the prices gets half of the downside (-1). If both actions are detrimental, both actors get half of the downside (-1).

Average payoff of the $(4, 4)$ model is 1.50 with only 1 out of 16 outcomes being in the negative territory. $(4, 4)$ model is a significant improvement relative to the $(3, 3)$ model due to the cross-chain interoperability of decentralized bridging made possible with the GHOST blockchain.

(4, 4) Model: Detailed Scenario Explanation

Scenario 1. Staking (Player A) + Staking (Player B)

Purchasing eGHST is considered a prerequisite of staking, resulting in +2 price move. Both staking actions are beneficial.

Player A pushes the price up +2 for Player B with price up $+\frac{2}{2} = +1$ for herself. Similarly, Player B pushes the price up +2 for Player A with price up $+\frac{2}{2} = +1$ for himself. Total result is +6.

	Impact on Player A	Impact on Player B
Impact of Player A	+1	+2
Impact of Player B	+2	+1
Total	**+3**	**+3**

Figure 11. Staking + Staking.

Scenario 2. Staking (Player A) + Bonding (Player B)

Purchasing eGHST is considered a prerequisite of staking, resulting in +2 price move. Both staking and bonding actions are beneficial.

Player A pushes the price up +2 for Player B with price up $+\frac{2}{2} = +1$ for herself. Player B earns +1 bond discount with no impact on Player A. Total result is +4.

	Impact on Player A	Impact on Player B
Impact of Player A	+1	+2
Impact of Player B	+0	+1
Total	**+1**	**+3**

Figure 12. Staking + Bonding.

Scenario 3. Staking (Player A) + Bridging (Player B)

Purchasing eGHST is considered a prerequisite of staking, resulting in $+2$ price move. Both staking and bridging actions are beneficial.

Player A pushes the price up $+2$ for Player B with price up $+\frac{2}{2} = +1$ for herself. Player B receives $+1$ expansion in supply with no impact on Player A. Total result is $+4$.

	Impact on Player A	Impact on Player B
Impact of Player A	$+1$	$+2$
Impact of Player B	$+0$	$+1$
Total	**$+1$**	**$+3$**

Figure 13. Staking + Bridging.

Scenario 4. Staking (Player A) + Selling (Player B)

Purchasing eGHST is considered a prerequisite of staking, resulting in $+2$ price move. Selling eGHST is detrimental, resulting in -2 price move. Staking and selling actions are contradictory.

Player A (good actor) pushes the price up $+2$, but Player B (bad actor) receives the benefit $+\frac{2}{2} = +1$. Conversely, Player B (bad actor) pushes the price down -2, but Player A (good actor) receives the downside $-\frac{2}{2} = -1$. Total result is $+0$.

	Impact on Player A	Impact on Player B
Impact of Player A	$+0$	$+1$
Impact of Player B	-1	$+0$
Total	**-1**	**$+1$**

Figure 14. Staking + Selling.

Scenario 5. Bonding (Player A) + Bonding (Player B)

Both bonding actions are beneficial.

Player A earns +1 bond discount with no impact on Player B. Player B earns +1 bond discount with no impact on Player B. Total result is +2.

	Impact on Player A	Impact on Player B
Impact of Player A	+1	+0
Impact of Player B	+0	+1
Total	**+1**	**+1**

Figure 15. Bonding + Bonding.

Scenario 6. Bonding (Player A) + Bridging (Player B)

Both bonding and bridging actions are beneficial.

Player A earns +1 bond discount with no impact on Player B. Player B receives +1 due to expansion in supply with no impact on Player A. Total result is +1.

	Impact on Player A	Impact on Player B
Impact of Player A	+1	+0
Impact of Player B	+0	+1
Total	**+1**	**+1**

Figure 16. Bonding + Bridging.

Scenario 7. Bonding (Player A) + Selling (Player B)

Bonding and selling actions are contradictory. Selling eGHST is detrimental, resulting in -2 price move.

Player A earns $+1$ bond discount with no impact on Player B. Player B (bad actor) pushes the price down -2 for Player A (good actor), still receiving $+\frac{2}{2} = +1$ for himself. Total result is $+0$.

	Impact on Player A	Impact on Player B
Impact of Player A	$+1$	$+0$
Impact of Player B	-2	$+1$
Total	$\mathbf{-1}$	$\mathbf{+1}$

Figure 17. Bonding + Selling.

Scenario 8. Bridging (Player A) + Bridging (Player B)

Both bridging actions are beneficial.

Player A earns $+1$ due to expansion in supply with no impact on Player B. Similarly, Player B receives $+1$ due to expansion in supply with no impact on Player A. Total result is $+2$.

	Impact on Player A	Impact on Player B
Impact of Player A	$+1$	$+0$
Impact of Player B	$+0$	$+1$
Total	$\mathbf{+1}$	$\mathbf{+1}$

Figure 18. Bridging + Bridging.

Scenario 9. Bridging (Player A) + Selling (Player B)

Bridging and selling actions are contradictory. Selling eGHST is detrimental, resulting in -2 price move.

Player A earns $+1$ due to expansion in supply with no impact on Player B. Player B pushes the price down -2 for Player A with price up $-\left(-\frac{2}{2}\right) = +1$ for himself. Total result is $+0$.

	Impact on Player A	Impact on Player B
Impact of Player A	$+1$	$+0$
Impact of Player B	-2	$+1$
Total	**-1**	**$+1$**

Figure 19. Bridging + Selling.

Scenario 10. Selling (Player A) + Selling (Player B)

Both selling actions are detrimental. Selling eGHST is detrimental, resulting in -2 price move.

Player A pushes the price down -2 for Player B with price down $-\frac{2}{2} = -1$ for herself. Similarly, Player B pushes the price down -2 for Player A with price up $-\frac{2}{2} = -1$ for himself. Total result is -6.

	Impact on Player A	Impact on Player B
Impact of Player A	-1	-2
Impact of Player B	-2	-1
Total	**-3**	**-3**

Figure 20. Selling + Selling.

(7, 7) and (10, 10) Model Expansion

Substantial improvements observed in the (4, 4) model through introduction of the bridging may inspire some to expand the model further to (7, 7) and (10, 10).

Model (7, 7) is an extension of the (4, 4) model from one to two blockchain networks. Model (7, 7) presented on **Figure 21** assumes that both players are interacting with ghostDAO from two blockchains (Ethereum and Binance).

		Ethereum				Binance		
		Stake	Bond	Sell	Bridge	Stake	Bond	Sell
Ethereum	Stake	(3, 3)	(1, 3)	(-1, 1)	(1, 3)	(3, 3)	(1, 3)	(-1, 1)
	Bond	(3, 1)	(1, 1)	(-1, 1)	(1, 1)	(3, 1)	(1, 1)	(-1, 1)
	Sell	(1, -1)	(1, -1)	(-3, -3)	(1, -1)	(1, -1)	(1, -1)	(-3, -3)
	Bridge	(3, 1)	(1, 1)	(-1, 1)	(1, 1)	(3, 1)	(1, 1)	(-1, 1)
Binance	Stake	(3, 3)	(1, 3)	(-1, 1)	(1, 3)	(3, 3)	(1, 3)	(-1, 1)
	Bond	(3, 1)	(1, 1)	(-1, 1)	(1, 1)	(3, 1)	(1, 1)	(-1, 1)
	Sell	(1, -1)	(1, -1)	(-3, -3)	(1, -1)	(1, -1)	(1, -1)	(-3, -3)

Figure 21. (7, 7) Model.

Respectively, model (10, 10) presented on **Figure 22** assumes that each of the players is interacting with ghostDAO from three blockchains simultaneously (Ethereum, Binance, Avalanche).

		Ethereum				Binance			Avalanche		
		Stake	Bond	Sell	Bridge	Stake	Bond	Sell	Stake	Bond	Sell
Ethereum	Stake	(3, 3)	(1, 3)	(-1, 1)	(1, 3)	(3, 3)	(1, 3)	(-1, 1)	(3, 3)	(1, 3)	(-1, 1)
	Bond	(3, 1)	(1, 1)	(-1, 1)	(1, 1)	(3, 1)	(1, 1)	(-1, 1)	(3, 1)	(1, 1)	(-1, 1)
	Sell	(1, -1)	(1, -1)	(-3, -3)	(1, -1)	(1, -1)	(1, -1)	(-3, -3)	(1, -1)	(1, -1)	(-3, -3)
	Bridge	(3, 1)	(1, 1)	(-1, 1)	(1, 1)	(3, 1)	(1, 1)	(-1, 1)	(3, 1)	(1, 1)	(-1, 1)
Binance	Stake	(3, 3)	(1, 3)	(-1, 1)	(1, 3)	(3, 3)	(1, 3)	(-1, 1)	(3, 3)	(1, 3)	(-1, 1)
	Bond	(3, 1)	(1, 1)	(-1, 1)	(1, 1)	(3, 1)	(1, 1)	(-1, 1)	(3, 1)	(1, 1)	(-1, 1)
	Sell	(1, -1)	(1, -1)	(-3, -3)	(1, -1)	(1, -1)	(1, -1)	(-3, -3)	(1, -1)	(1, -1)	(-3, -3)
Avalanche	Stake	(3, 3)	(1, 3)	(-1, 1)	(1, 3)	(3, 3)	(1, 3)	(-1, 1)	(3, 3)	(1, 3)	(-1, 1)
	Bond	(3, 1)	(1, 1)	(-1, 1)	(1, 1)	(3, 1)	(1, 1)	(-1, 1)	(3, 1)	(1, 1)	(-1, 1)
	Sell	(1, -1)	(1, -1)	(-3, -3)	(1, -1)	(1, -1)	(1, -1)	(-3, -3)	(1, -1)	(1, -1)	(-3, -3)

Figure 22. (10, 10) Model.

(7, 7) and (10, 10) models bring higher level of complexity without payout distribution improvement. (7, 7) model's payout average is 1.35 with 4 out of 49 unfavorable outcomes. (10, 10) model's payout average is 1.28 with 9 out of 100 unfavorable outcomes.

Model Optimization

To estimate best case scenario for ghostDAO protocol it is important to conduct comparison of payout and outcome distribution.

Figure 23 perfectly illustrates the reason behind success of (3, 3) model relative to the (2, 2) classic model. ghostDAO (4, 4) model continues to improve the (3, 3) model by improving both the payout distribution and model risk allocation:

- 150% payout in (4, 4) vs. 111% payout in (3, 3)
- 6% unfavorable outcomes in (4, 4) vs. 11% unfavorable outcomes in (3, 3)

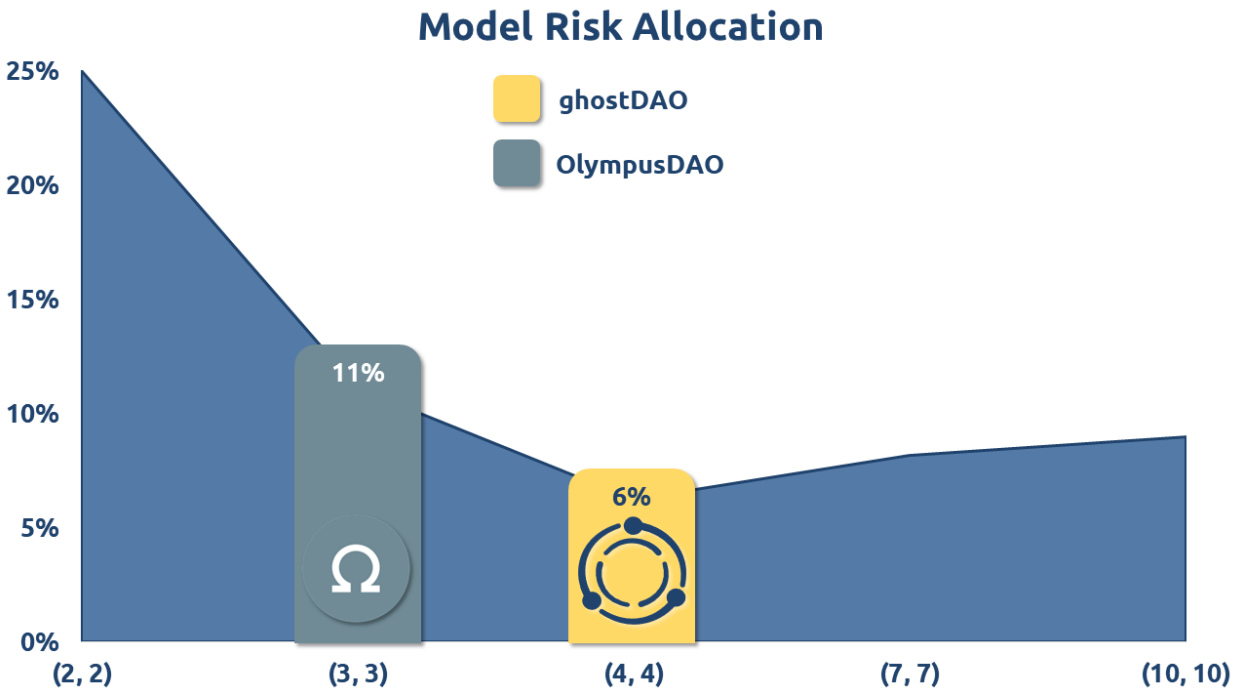


Figure 24. Model Risk Allocation Overview.

It is also quite obvious that despite potential cross-chain arbitrage opportunities, over-diversification to other blockchains may lead to stabilization of staking rewards. There must be a fine balance between taking advantage of market inefficiencies in both price and staking reward potential and cross-chain interaction.

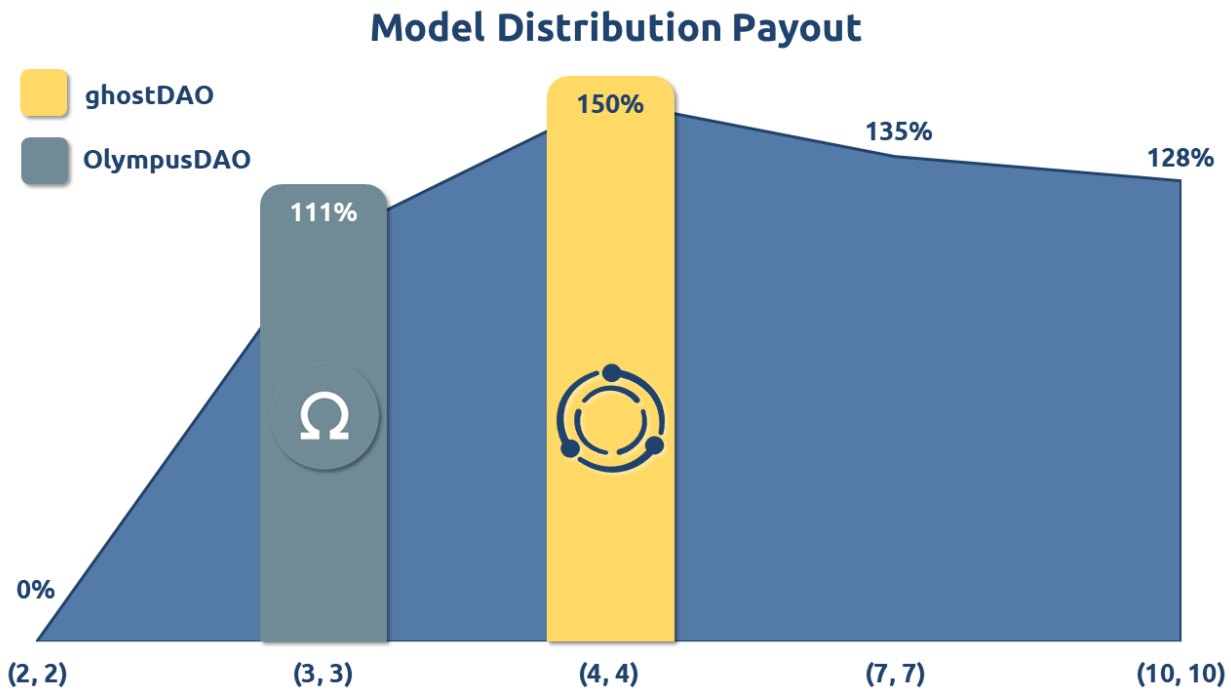


Figure 23. Model Distribution Payout Overview.

Incentive Mechanics

ghostDAO is designed with incentive mechanics for every type of stakeholder to motivate the growth of the treasury assets used to back up the intrinsic value of eGHST.

Staking

Stakers enter ghostDAO to earn a higher amount of eGHST tokens. A combination of eGHST price and eGHST balance is what stakers would like to see. Price action of eGHST alone is not as important for stakers due to longer-term network growth considerations.

Bonding

Bonders join ghostDAO to take advantage of the price discount. Bonders benefit if the price of eGHST stays at the same level at the time of their bond or increases. Bonders may only lose when the price of eGHST goes down beyond the locked in discount. At that point, the bonder will have a choice between eGHST or the LP, depending on which one is worth more. Bonders always get to choose the better of the two assets based on the optimal risk-reward profile.

Selling

Sellers consider leaving ghostDAO expecting that a combination of price and eGHST staking balance will decrease. A hypothetical scenario of a bank run, where many sellers would consider leaving the network is also part of this section.

ghostDAO treasury holds funds that will be released to purchase eGHST if the price of eGHST falls below its intrinsic value. In the process of purchasing eGHST from the market the treasury will also be burning eGHST token, effectively raising the APY available for the remaining stakers. This mechanism simultaneously incentivizes existing stakers to keep their eGHST staked and motivate new users to join the network to earn a higher APY.

Bridging

Bridgers take a specific position of staying with the ghostDAO, while expecting to increase their respective share of the protocol. Bridgers have an opportunity to move away from a public chain (Ethereum, Binance, Avalanche, etc.) into the GHOST blockchain by swapping GHST tokens for GHST MainNet coins. Bridgers expect a relative contraction in the supply of eGHST, thus expanding their proportional share of the token. Bridgers will lose if the supply of eGHST increases while they are inside of the GHOST blockchain. At the same time, bridgers always have an opportunity to become validators or nominators inside of GHOST blockchain to keep increasing their real supply of the GHOST coin.

Financing

Borrowers want to take full advantage of the lending capabilities of ghostDAO by taking a long-term loan or a flash loan. Long-term loan can be used to either leverage their existing staking position or take a short position to benefit from contraction in price and/or balance of eGHST. Borrowers will use flash loans to take advantage of arbitrage opportunities of cross-chain staking reward inefficiencies.

Features

ghostDAO has a number of advantages over existing DeFi 2.0 projects due to integration with the GHOST blockchain. Due to decentralized cross-chain interoperability possible with GHOST blockchain, ghostDAO brings out further innovation as shown on **Figure 25**.

Bridging is a powerful tool enabling cross-chain interoperability of the eGHST token amongst EVM-compatible blockchains, including Avalanche, Binance Smart Chain, Ethereum, Polygon, and Solana. While OlympusDAO and Wonderland are either planning to introduce bridging or using existing centralized cross-chain solutions, ghostDAO's partnership with GHOST uniquely positions ghostDAO as the first cross-chain DeFi 2.0 project.

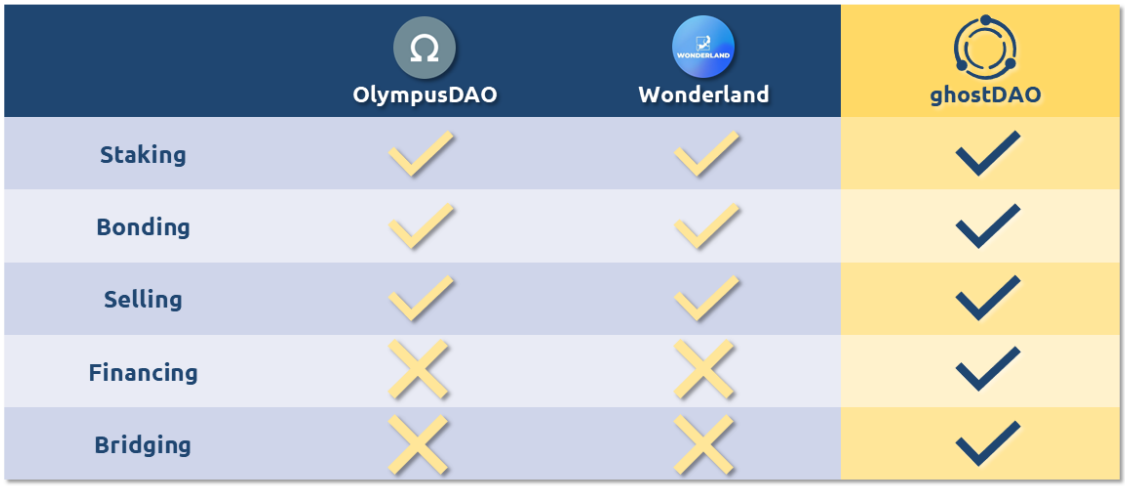


Figure 25. Basic Functionality Comparison.

Popularity of most blockchain networks come and go, and it is important to always stay with the trend. The ease of integration of a new EVM-compatible blockchain to the GHOST blockchain is another significant differentiating factor that will help make ghostDAO always relevant.

Smooth, decentralized experience for users from all major EVM-compatible blockchains will help ghostDAO get higher level of adoption faster due to a number of additional functionalities.

Cross-chain price arbitrage of eGHST on multiple blockchains will make price discovery more efficient resulting in both lowering price volatility and making the entire ghostDAO system more stable. Cross-chain flash loans will help remove cross-chain price inefficiency faster due to leveraged trades enabled.



Figure 26. Blockchain Compatibility.

Cross-chain lending and borrowing markets will help power liquidity from different blockchains bringing various crypto communities closer while retaining true decentralization.



Figure 27. Extended Functionality Comparison.

Community on every engaged blockchain will likely compose a unique supply-demand profile. Such distribution of supply-demand profiles will lead to the consequent distribution of expected APYs with respective arbitrage opportunities available. Staking APY arbitrage is yet another mechanism that helps stabilize ghostDAO.

The last and a real booster feature of ghostDAO is privacy. Private transactions are something very difficult if not impossible to be achieved with competitive DeFi 2.0 projects of OlympusDAO or Wonderland. Conversely, partnership with GHOST blockchain enables ghostDAO to offer private cross-chain transactions.

Team

ghostDAO is designed and built by the same anonymous development team who developed the GHOST network. The DAO of the GHOST network is closely collaborating with the development team to properly incorporate the vision of John McAfee.

We are forever grateful to John McAfee for being our inspiration and motivation.