Primordium: A Decentralized, Self-Governed Business Enterprise

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Abstract.   Primordium will be a for-profit digital business enterprise consisting of a decentralized network of independent members. The members will have exclusive control of the business at all times. They will coordinate through a proposal-based voting process to apply their collective resources towards any business endeavors they choose. Anyone will be permitted to join Primordium by depositing Ether (ETH) to the business treasury. Likewise, any member will be permitted to leave Primordium and withdraw their proportional share of funds from the business treasury. All of Primordium's business logic will be implemented through open-source smart contracts on Ethereum. We at bcj.dev have a proposed business model for Primordium.

1.   Introduction

Primordium will be a cryptographically protected digital business enterprise that is autonomously owned and operated by its decentralized network of otherwise unassociated members. These members will pool and collectively apply their resources towards any business endeavors they choose. This will be facilitated through a self-governed voting process, ensuring the network of members will be in full control of the business at all times. No outside parties will have control of any kind.

Primordium will be implemented as an open-source system of smart contracts that will run on Ethereum [1].

This paper describes Primordium's business logic structure.

2.   Business Formation

Membership in Primordium will be divided into transferrable shares of membership equity. These shares will be directly represented as membership tokens via an ERC-20 token smart contract [2]. However, the initial supply of membership tokens will start at zero, meaning Primordium will begin its formation process with zero members.

In order to mint a membership token, one must deposit a specified amount of Ether (ETH) into Primordium's treasury smart contract. Every individual membership token will be minted at the same specified rate of ETH per token. There will be a maximum supply of membership tokens, beyond which no more membership tokens can be minted.

Any willing party will be permitted to mint any number of membership tokens, as long as (1) the corresponding amount of required ETH per token is deposited to the treasury, and (2) the number of membership tokens being minted will not cause the maximum supply of membership tokens to be exceeded. There will be no alternative procedure for minting membership tokens.

This formation process will allow the decentralized network of Primordium business members to emerge voluntarily and independently.

Once a minimum percentage of the maximum token supply has been minted, members will need to vote to end the formation process and begin governance. No collective actions can be taken until the members have successfully voted to initiate governance.

3.   Collective Autonomy

As soon as governance begins, members will be able to propose and vote on any actions to take towards Primordium's business operations. The proposal-based voting process will be as follows:

A single Primordium membership token will count as a single vote towards any given proposal. Every member will need to delegate their vote(s) in order for their membership token(s) to be eligible for voting. Members may delegate their votes to themselves or to any other Ethereum address they choose, with the freedom to change their chosen delegate at any time. A voter's individual vote weight on any given proposal will be equivalent to the total number of votes delegated to their address. Any address can be delegated to (even if the address does not own any membership tokens themselves).

Each proposal will contain a human-readable description of the proposed transaction(s), as well as a specific dataset of executable transaction instructions. Every proposal will require a majority vote of approval from the members (or their designated delegates) in order to execute the proposed transactions.

When a new proposal is created, it will undergo a 2-day review period, followed by a 3-day voting period. During the voting period, members (or their delegates) may vote *for*, *against*, or *abstain*, or they may choose not to vote at all. In the case of last-minute swing votes, the voting deadline will be algorithmically extended to allow remaining voters more time to include their votes if they choose.

A proposal will be considered successful if both of the following conditions are true:
1. A majority of casted votes are in favor of the proposal. Primordium will initialize with a simple majority (> 50%) requirement. However, the members can vote to adjust the required majority percentage to anything between a simple majority and a super majority (> 66%).
2. The sum of the proposal's *for* and *abstain* votes meets or exceeds the proposal quorum. (This will ensure that enough votes were cast for the proposal's success to be considered valid.)

If a proposal becomes successful, it will first need to be submitted to the "timelock." A successful proposal will have 14 days to be submitted to the timelock before it expires. Once submitted to the timelock, the proposal will be locked for 4 days. After the 4 days, the proposal will have an additional 14 days to be executed before it expires. Any Ethereum address (member or non-member) can submit successful proposals to the timelock and/or execute proposals released from the timelock.
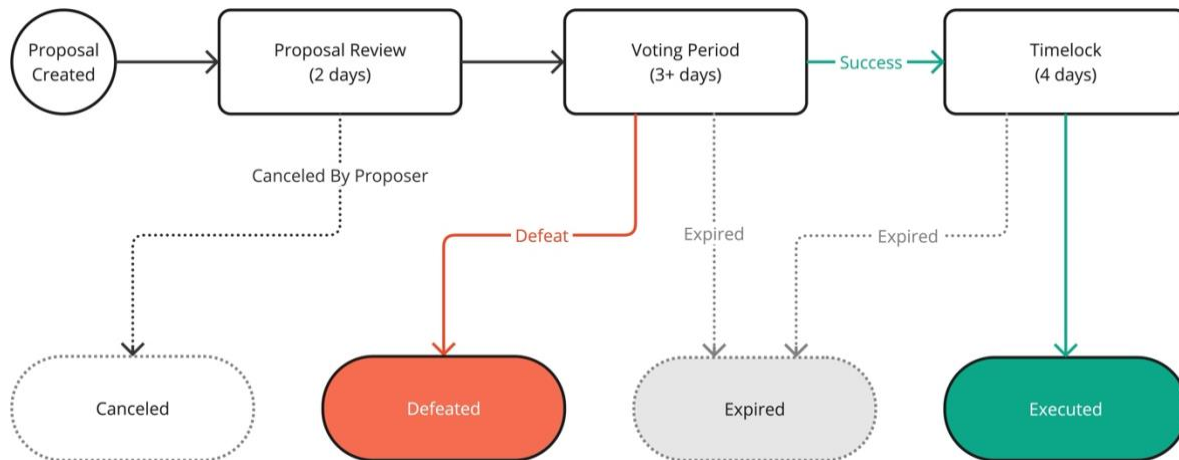
Flowchart of proposal states.

Primordium's smart contract implementation of the proposal-based voting process will be based off of OpenZeppelin's governance modules [3], which were originally preceded by Compound's Governor Alpha and Bravo smart contracts [4].

Primordium will have a proposal threshold: the minimum number of votes that a voter must hold in order to create a proposal. If a voter's total amount of delegated votes meets or exceeds the proposal threshold, then that voter will be authorized to create proposals.

Primordium will also allow for trusted proposers: designated Ethereum addresses that are authorized to create proposals at any time (regardless of their membership status or the number of votes delegated to them). Members may add and/or remove trusted proposers through the voting process.

This proposal-based voting process will ensure that the decentralized network of Primordium members will be in full collective control of all of Primordium's operations at all times.

4. Individual Autonomy

Additionally, every individual Primordium member will have complete control over their own shares of membership.

A member will be permitted to withdraw any number of their membership tokens at any point in time. Withdrawn tokens will be "burned." Meaning, the tokens will be eliminated, and the total

circulating supply of membership tokens will be reduced. In return, the withdrawing member will receive their pro-rata share of any fungible assets in the treasury. The amount of assets withdrawn will always be in direct proportion to the amount of membership tokens being burned.

A member will also be permitted to transfer any number of their membership tokens at any point in time. They may transfer their tokens to any Ethereum address they choose. Membership tokens will be in full adherence with the ERC-20 token standard, ensuring seamless interoperability with third-party Ethereum applications. This will include compatibility with open-market exchanges to enable buying and selling membership tokens.

The combined elements of Primordium's business formation, collective autonomy and individual autonomy will work synergistically to uphold Primordium's decentralization. Importantly, these combined processes will protect the individual rights of each member to operate freely and voluntarily while never compromising the integrity of the collective as a whole.

5. Profits

Primordium will enable members to receive profit distributions of fungible assets from the treasury.

The only way for Primordium members to create distributions will be through the proposal process. When proposing a distribution, the proposer will need to specify a distribution asset (ETH or any ERC-20 token) as well as the total amount of the asset to be distributed.

If the members approve and execute a distribution proposal, the specified amount of the chosen asset will be allocated from the treasury to Primordium's distributor smart contract. From there, each member will be able to claim their share of the total distribution, which will be in direct proportion to their percentage of membership equity.

6. Additional Funding

As soon as governance begins, the members will manage the ongoing conditions for minting new membership tokens. Through the proposal process, members may vote to:
- Turn the ability to mint membership tokens on or off.
- Increase (or decrease) the maximum membership token supply.
- Increase (or decrease) the deposit amount needed to mint a membership token.
- Change the fungible asset used for deposits.

This will give Primordium the option to raise additional funds as needed.

7. Upgradeability

All Primordium smart contracts will be upgradeable via a proxy pattern [5]. This will enable the smart contracts to be updated as needed. However, no smart contract upgrades will be executable without a majority vote of approval from Primordium's network of members.

8. Our Proposed Business Model

We at bcj.dev have a proposed business model for Primordium. Our proposal for building and launching this business model can be found [here](#).

When Primordium's smart contracts are deployed, we will be pre-registered as a trusted proposer. This will allow us to officially propose our business model for the Primordium members to vote on. However, we will *not* have any membership shares or voting power ourselves. We are a distinct and separate entity that would be providing services to Primordium as an independent contractor.

9. Conclusion

In this paper, we have described the business logic that will enable Primordium to operate as a decentralized, self-governed business enterprise. Primordium will be entirely formed, owned, and operated by an independent network of members. Anyone will be permitted to become a member by depositing ETH to Primordium's treasury. Through a proposal-based voting process, the members will collectively apply their pooled resources towards any operations and business endeavors they choose. Members will be able to receive distributions of any resulting profits. Additionally, any member may withdraw their equity share of fungible assets from the treasury at any time. No outside parties will be involved; Primordium's members will be in exclusive control of the business enterprise at all times.

References

[1] Vitalik Buterin et al. Ethereum whitepaper. https://ethereum.org/en/whitepaper/.

[2] Vitalik Buterin, Fabian Vogelsteller. ERC-20: Token standard. https://eips.ethereum.org/EIPS/eip-20.

[3] OpenZeppelin. Governance. https://docs.openzeppelin.com/contracts/5.x/api/governance.

[4] Compound. Governance. https://docs.compound.finance/v2/governance/.

[5] OpenZeppelin. Proxy Patterns. https://blog.openzeppelin.com/proxy-patterns.