Founding Auction Process

Goal

To elect Storecoin miners for the Alpha phase through an auction process. Separate auction is held for Validation and Storage miner positions. The Alpha (launch) phase launches 4 Markets, each Market consisting of 16 Validation and 7 Storage miner positions[1] , resulting in a total of 92 open miner positions.

Why 4 Markets?

We estimate that Storecoin's settlement layer launches with approximately 100 total nodes with future phases adding more nodes for greater decentralization. Storecoin miners are organized into Markets right from the launch phase. For *acceptable* Byzantine fault tolerance, we estimate that each Market should have a minimum of 16 Validation nodes (tolerating up to 5 faulty nodes) and 7 Storage nodes (tolerating up to 2 faulty nodes). Thus, about 4 Markets are realistic at launch phase.

Definitions

miner — An entity that runs a node in the Storecoin network. Storecoin network runs different types of nodes.
Validation miner — A type of miner in the Storecoin network that provides validation compute infrastructure.
Storage miner — A type of miner in the Storecoin network that provides storage and consensus infrastructure. Together with validation miners, storage miners secure transactions in the Storecoin settlement layer.

Prerequisites and assumptions

- All participants have their identities verified through the [KYV process](#) prior to participating in the auction.
- Participants deposit the minimum stake in $STORE before the auction begins for the position they will be bidding.

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[1] The BFT tolerance will be 5 and 2 respectively for Validation and Storage miners and collectively 7 in a given Market. The BFT tolerance for the entire Storecoin network at launch is 30.

- Each node type has a ceiling for total $STORE tokens staked, based on the security budget set for the Alpha phase.
- Participants are aware of their responsibilities as miners, should they get elected in the auction and they are prepared to run their respective nodes within a predefined time frame.
- Participants can commit to 1 or 2 year to serve as miners if they get elected in the auction. They get 10% $STORE token bonus for 1-year commitment and 20% $STORE token bonus for 1-year commitment.
- Elected miners are contractually obligated to fulfill their staking commitments or risk losing the minimum $STORE deposited prior to the auction process.

The auction process

1. All participants bid for the 92 open positions — 64 for Validation and 28 for Storage miner positions — by committing to stake $STORE tokens. The auction is open for 72 hours.
2. An open auction process is used where every participant knows others' staking commitments. Participants can outbid each other during the auction window.
3. At the end of the auction, top 64 bidders are selected for the Validation miner group and top 28 bidders are selected for the Storage miner group. If the number of participants are less than 64 and 28 for these node types, the auction may be extended or the Alpha phase is launched with the reduced capacity.
4. The final staking for the winning bidders is determined as follows.
   `(Committed stake / Total committed stake for the node type) x Staking ceiling for the node type.` For example, consider the following setup.
   a. Staking ceiling for Validation miners based on the security budget: 100M tokens
   b. Total tokens staked by all bidders for Validation miner group: 200M tokens
   c. Committed stake by one of the bidders: 10M tokens
   d. Final staking for this bidder = `(10M / 200M) x 100M = 5M` tokens.
   This means, although the winning bidder bid 10M tokens, the final staking is determined based on the staking ceiling for the node type.
5. The winning bidders have 72 hours from the close of the auction to deposit their stake for the duration (1 or 2 years) of their choice.
6. After all the winning bidders fund their stakes, they officially become Storecoin miners.

7. Miners are randomly assigned to one of the 4 Markets, based on the following rules.
   a. All Markets have roughly the same *weight* of miners stakes.
   b. Each Market has 16 Validation and 7 Storage miners. If the Alpha phase is launched with a reduced capacity, these numbers are adjusted accordingly.
8. Once Markets are formed, miners will have 30 days to setup and commission their respective node infrastructures.

The result

1. 64 Validation and 28 Storage miners are selected from a pool of participants.
2. 4 Markets are formed by randomly assigning selected Validation and Storage miners to them, such that the total weight of staking in all the 4 Markets are roughly the same.
3. The winning bidders commit to 1-year or 2-year term and get 10% or 20% $STORE token bonus for staking through the committed period.