

# PAI Coin Pool and Hybrid PoW/PoS

## Overview and Goal

Some individual goals of the Hybrid PoW/PoS Consensus Mechanism and the PAI Coin Pool platform are to (a) decentralize the block validation of PAI Coin and (b) lower the barrier to entry for mining and staking, especially for non-technical users.

PAI Coin Pool was initially launched as an “off-chain” platform, in an effort to, among other things, introduce users to the concepts of mining and staking. Now that the hybrid consensus hard fork has successfully taken place, however, PAI Coin Pool has transitioned to being an “on-chain” platform, meaning that the pool directly contributes blocks to the PAI Blockchain (and as of the writing of this article, is responsible for mining nearly 100% of them).

**PAI Coin Pool is an online platform through which users can easily mine and stake.** While everyone in the public retains the right and ability to [solo mine](#) or [solo stake](#), **it is simpler & more accessible to mine and stake via PAI Coin Pool.** Furthermore, PAI Coin Pool gives users with access to only a relatively small amount of computational or financial resources a better chance of earning PAI. This document gives a brief overview of how mining and staking work on PAI Coin Pool now that the hybrid consensus hard fork has occurred.

## Mining & Staking on PAI Coin Pool

### Mining by Proxy

Like most cryptocurrency mining pools (e.g., [AntPool](#), [Slush Pool](#), etc.), PAI Coin Pool combines the hashing contributions of all users who are actively mining and submits winning blocks to the PAI Blockchain on their behalf. In this way, PAI Coin Pool acts as a single large miner. We call this mechanism *Mining by Proxy*.

When PAI Coin Pool, as a whole, wins a mining block reward, **all** users who were actively mining in the time period between the newly mined block and the block immediately prior, earn a reward<sup>1</sup>. The amount of an individual user’s reward is calculated as a fraction of the total mining block reward (600 PAI, as of the writing of this article, less a pool fee). That fraction is proportional to the number of Lucky Hashes the individual user generated relative to other miners in the time since the previous block was mined.

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<sup>1</sup> This is the main benefit of pool mining versus solo mining. Even if you were mining on a very slow and old laptop, you will still earn a small amount of PAI each time a block is mined. The same would not be true for solo mining, in all likelihood.

## Off-Chain Staking

PAI Coin Pool uses [PAI Foundation funds](#) and staked user deposits to automatically purchase stake vouchers on behalf of all PAI Coin Pool users with active stakes. As before, users can stake any amount of PAI for any time period they choose between 2 and 52 weeks. Users' staking earnings increase every time a block is validated with votes from one or more stake vouchers owned by PAI Coin Pool. The amount of reward is calculated as a fraction of the total staking block reward (typically anywhere from 180 to 900 PAI, in increments of 180 PAI, depending on the number of PCP stake vouchers that were chosen to vote on the newly mined block), which in turn, is proportional to the amount of PAI the user staked, and the length of time for which they staked it.