

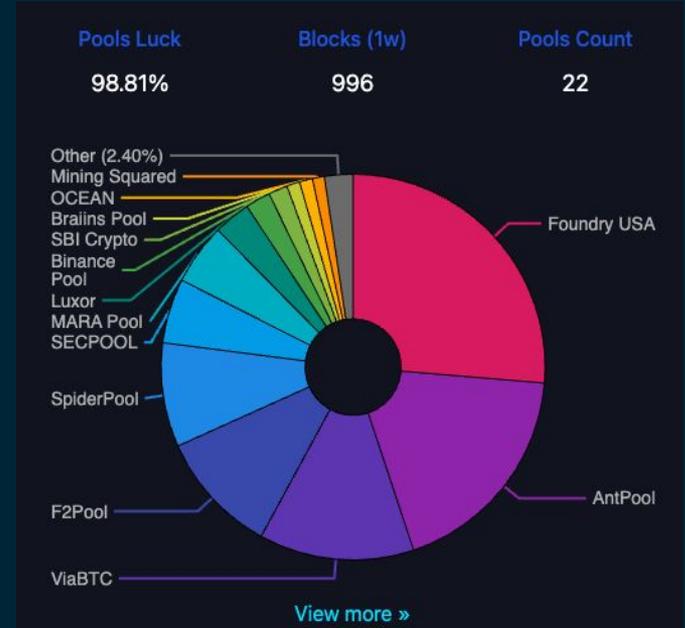
\$ p2pool-v2 ■

A reboot of the protocol for decentralized mining
on Bitcoin

Johnny Santos - 22/12/2025

Why?

- Historical ASIC Manufacturing monopoly
- "Undocumented Features":
 - Antbleed (2017) & ASICBoost (2017)
- Masked Centralization
 - Many pools with the same template
 - Similar timings
 - Same coinbase script sometimes
- Sovereign nations trying to centralize mining
 - USA
 - Sanctions as in AI Chip manufacturing



Why?



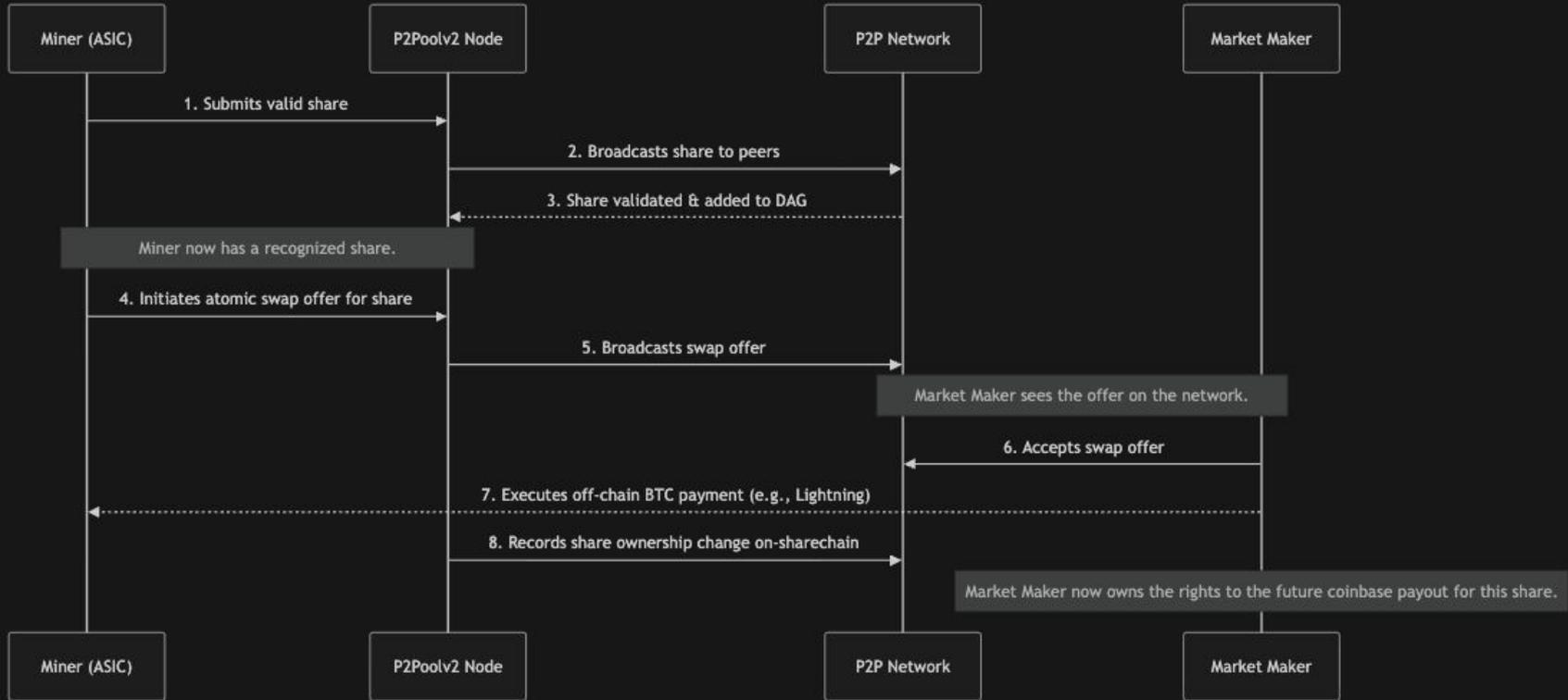
The Original Dream & Its Downfall: P2Pool v1

- Created by Forrest Voight (2011)
 - p2p
 - python
 - no central authority; no credit;
 - linear sharechain to keep track of work in a "PPLNS"
- Major flaws
 - high orphan block rate (sharechain)
 - payout scaling failure
 - dust
 - coinbase size

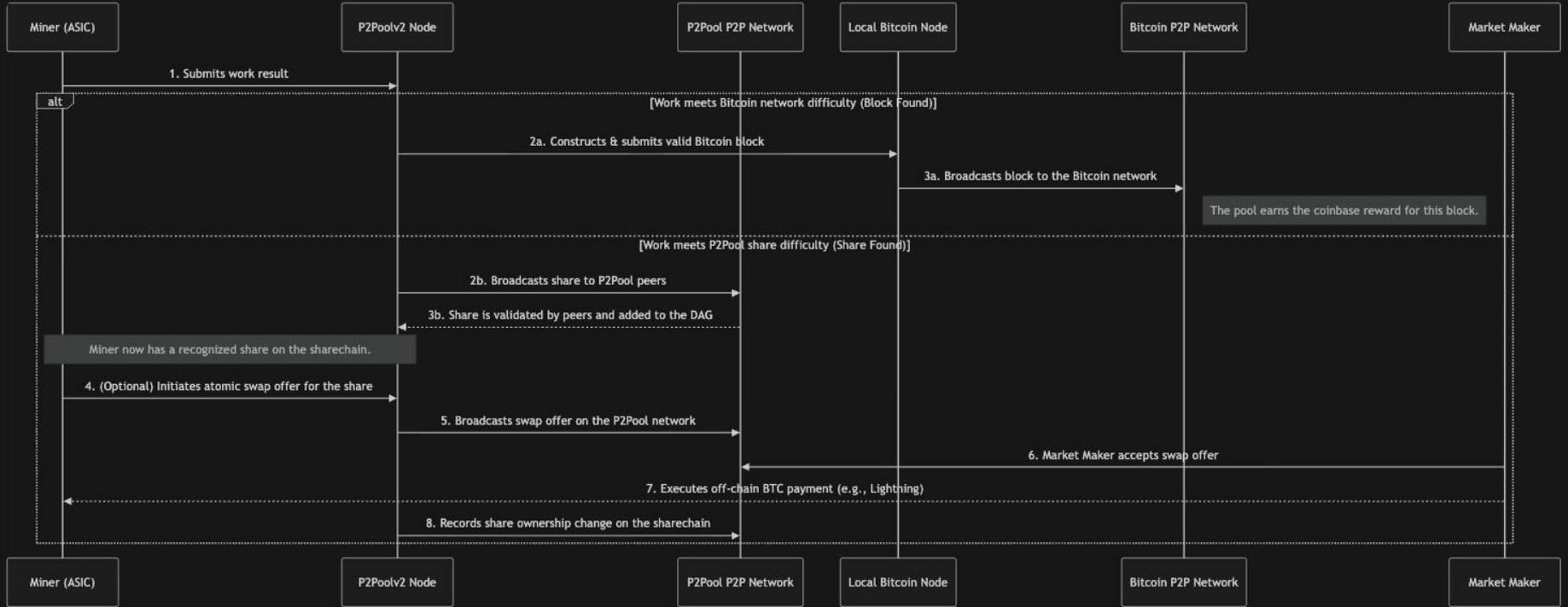
Enter P2Poolv2

- **Complete reimplementation**
 - fixes problems from previous protocol
 - rust - built on top of solid crates
 - DAG
 - compact block broadcast
 - sv1 (ckpool - no more longpooling); sv2 compatible
 - pruned chain by default
- **Orphans fix: GHOST - Greedy Heaviest Observed Sub-Tree**
 - The most work chain was replaced by the heaviest observed sub-tree
- **Payout fix**
 - atomic swaps market
 - sharechain <> btc,ln,etc
 - tiered payouts
 - top 16 miners -> coinbase
 - other -> shares

P2Poolv2: Miner Journey



P2Poolv2: Miner Journey



Conclusion

- Problems from v1 solved
- v2 solutions
 - DAG-based
 - GHOST/Uncleblocks
 - Non custodial through share market
 - Atomic swaps
 - Efficient coinbase usage

Questions?