

GBA Hub Blockchain Selection

Initial requirements included high-speed, high-volume microtransactions and a majority of the token functionality already written and available.

Blockchains considered and results:

1. **Steem** – eliminated for DPoS take-over issues
2. **EOS** – eliminated for DPoS take-over issues & not being distributed enough
3. **Ardor**- eliminated for transaction fees preventing viable microtransactions
4. **Hyperledger Fabric** – eliminated as token functionality is not yet developed
5. **Besu (PoA Ethereum)** - WINNER!
6. **Quorum** – lost to Besu based on community size and smart contract code-base size

Explanatory Notes

Delegated Proof-of-Stake (DPoS) take-over issues

DPoS blockchains have stake holders vote on the block producers. Each stake holder's vote power is counted according to the size of the stake. Block producers then make all decisions about what does and does not go into the canonical code (including reversing transactions or freezing users if they so desire). Many people have been concerned about collusion and cartels among EOS block producers, but Steem demonstrated how bad it could get as it is now effectively owned by Justin Sun.

Not being distributed enough

EOS is a database-driven ledger rather than a file-based ledger where anyone can get the file and verify reality. This isn't necessarily a problem. The problem is the results when Coin Metrics attempted to launch full nodes for 8 major cryptocurrencies and re-create their full history. EOS was graded an F due to the complexity of extracting data and the fact that an archive node running with an extra, relatively undocumented plugin is required. Further, Coin Metrics discovered that EOS full nodes will apparently corrupt their own database if they aren't shut down carefully. Finally, a March 2019 report related that while 21 block producers (BPs) run the network, there are only 5 EOS full nodes in existence due to the difficulty of running one. This is particularly problematic when 20% of all EOS transactions require the full blockchain history to work. While we will want to link to EOS for token transfers and services, we clearly do not want it for our mission-critical hub.