Proposer/Builder Separation material

This document aims at aggregating all the various research notes and material regarding PBS as well as various surrounding concepts

Research / discussion

- [Proposer/block builder separation-friendly fee market designs](#) - June 2021

- [Censorship resistance under PBS](#) - Vitalik, January 2022

- [Why enshrine Proposer-Builder Separation?](#) — Mike Neuder, May 2023

Implementation research

- [Two-slot PBS](#) - October 2021

- [Single-slot PBS using attesters as distributed availability oracle](#) - January 2022

- [Current crList proposal](#) - April 2022

- [Possible censorship with PBS + EIP1559](#)- July 2022

- [PBS censorship-resistance notes](#) - Francesco, ongoing

- [Block vs Slot auctions](#)

Alternatives

- [Protocol-Enforced Proposer Commitments (PEPC)](#) - Barnabé Monnot, October 2022

Talks

- [MEV on ETH2: MEV-boost, PBS, Danksharding](#) - Vitalik Buterin, May 2022

- [A study of the transaction supply chain from CryptoKitties to MEV-Boost to PBS](#)([slides](#)) - Barnabé Monnot, May 2022

- In-protocol PBS ([slides](#)) - Vitalik Buterin, July 2022

- [Decentralizing the Builder Role](#) ([slides](#)) - Vitalik Buterin, September 2022

Implementations out of protocol

- [MEV Boost](#)

- [Builder specs repository](#)

- [Flashbot's consideration of crLists](#)

Further applications of PBS

- Committee-driven MEV smoothing: [notes](#), [ethresearch](#) - August 2021

- [Multidimensional EIP 1559](#) - Janaury 2022

- [PBS for Data Availability Sampling](#) - August 2022

- [Sharding design with tight beacon and shard block integration](#)(also known as danksharding)

- [EIP-4844: Shard Blob Transaction](#) (proto-danksharding) and related [FAQ](#)

- [Danksharding workshop](#) (PBS+crList overview at [12:25](#))

- [Mathematical Theory of Danksharding](#)

- [EIP-4844: Shard Blob Transaction](#) (proto-danksharding) and related [FAQ](#)

- [Danksharding workshop](#) (PBS+crList overview at [12:25](#))

- [Mathematical Theory of Danksharding](#)