The MEV Letter

is a weekly collection of papers, articles and resources related to MEV. The intention of this letter is to provide a comprehensive summary of the latest research, discussions, and developments in the space, with links for further reading.

# Papers & Articles

- [Centralization in Block Building and Proposer-Builder Separation](#) by [Maryam Bahrani](#), [Pranav Garimidi](#) and [Tim Roughgarden](#) examine decentralization in PBS by looking at the competition in the builder market and decentralization among proposers.

- [Thread](#) by [Pranav Garimidi](#)

- [Thread](#) by [Pranav Garimidi](#)

- [Sirrah: Speedrunning a TEE Coprocessor](#) by [Andrew Miller](#), [Mateusz Morusiewicz](#) and [Frieder Paape](#) presents a minimalist demo of extending a blockchain with confidential computing using TEEs, and details the development of a MEV-aware auction.

- [Forum topic](#) by [Andrew Miller](#)

- [Thread](#) by [Andrew Miller](#)

- [Timelock encryption demo](#) by [Brock Smedley](#)

- [Forum topic](#) by [Andrew Miller](#)

- [Thread](#) by [Andrew Miller](#)

- [Timelock encryption demo](#) by [Brock Smedley](#)

- [Announcing Oval: Earn Protocol Revenue by Capturing Oracle MEV](#) by [Hart Lambur](#) introduces [Oval](#) as a MEV capture mechanism that enables protocols to monetize the value they produce when consuming Chainlink oracle data.

- [Thread](#) by [UMA](#)

- [Space: Introducing Oval](#) with [Hart Lambur](#), [manny](#), [Chris Maree](#) and [Matt Rice](#)

- [Thread](#) by [Shea Ketsdever](#)

- [Thread](#) by [UMA](#)

- [Space: Introducing Oval](#) with [Hart Lambur](#), [manny](#), [Chris Maree](#) and [Matt Rice](#)

- [Thread](#) by [Shea Ketsdever](#)

- [FRP-34: Do backrun auctions protect traders?](#) by [Andrew W. Macpherson](#) presents results from their research that studied the game theory of exotic blockchain queues exemplified by products such as [MEV-Share](#) and [MEV-Blocker](#).

- Paper: [Do backrun auctions protect traders?](#) by [Andrew W. Macpherson](#)

- Post: [Taming the dark forest: arbitrage and manipulation in backrun auctions](#) by [Andrew W. Macpherson](#)

- Paper: [Do backrun auctions protect traders?](#) by [Andrew W. Macpherson](#)

- Post: [Taming the dark forest: arbitrage and manipulation in backrun auctions](#) by [Andrew W. Macpherson](#)

- [FRP Unconference](#) by [Sarah Allen](#) details the [virtual event](#) hosted by [Flashbots](#) last week to celebrate Flashbots Research Proposals (FRPs) with lightning talks and a town hall.

- [Thread](#) by [Sarah Allen](#)

- [Recordings](#) by [Flashbots](#)

- [Thread](#) by [Sarah Allen](#)

- [Recordings](#) by [Flashbots](#)

- [Properties of issuance level: consensus incentives and variability across potential reward curves](#) by [Anders Elowsson](#) analyzes Ethereum staking economics and how reducing issuance affects consensus incentives and reward variability for proposers.

- [Thread](#) by [Anders Elowsson](#)

- [Thread](#) by [Anders Elowsson](#)

- [Illuminating Trust Reliance in Ethereum's Transaction Supply Chain](#) by [Miha Lotric](#) dives into the trust dependencies introduced by PBS and OFAs and whether more trust-minimized models are possible.

- [Announcing OEV Network: The ZK-rollup to capture all oracle extractable value](#) by [API3](#) introduces the OEV Network as a zk-Rollup designed to capture OEV from apps on any chain.

- [Thread](#) by [API3](#)

- [Thread](#) by [API3](#)

- [Scaling Security: Multi-Prover Implementation on Scroll](#) by [Haichen Shen](#) presents a multi-proof system that incorporates [SGX Prover](#) by [Automata Network](#) as a secondary prover to Scroll.

- [Thread](#) by [Scroll](#)

- [Thread](#) by [Scroll](#)

- [TEE Prover with Scroll](#) by [Automata Network](#) provides an overview of [SGX Prover](#), designed to improve prover diversity and the overall resilience of rollups.

- [Phala's 2024 Path: Coprocessor for blockchains—AI, Hooks and DePin](#) by [Marvin Tong](#) reveals their [2024 roadmap](#) and key focus areas building coprocessors for smart contracts, DePIN and AI.

- [Thread](#) by [Phala Network](#)

- Video: [Vision for 2024 Phala Network's Role as a Co Processor](#) by [Marvin Tong](#)

- [Thread](#) by [Phala Network](#)

- Video: [Vision for 2024 Phala Network's Role as a Co Processor](#) by [Marvin Tong](#)

- [Shutterized OP Stack Testnet Announcement and Roadmap](#) by [Shutter](#) details their development of an encrypted, shutterized mempool for the OP stack designed to eliminate frontrunning and increase censorship resistance.

- [On Climbing the Stat Arb (CEX/DEX) Leaderboard, Comparative Advantage and Careers, and My Future in Crypto](#) by [Daniel McKinnon](#) describes the challenges, strategies, and insights gained from building one of the top performing CEX/DEX-arbitrage bot on Avalanche.

- [MEV BooTEE: Partial Block Building with TEEs](#) by [Oana Barbu](#) presents an integrated builder-relayer design that utilizes a TEE to construct blocks comprising a builder's ToB (Top of Block) and a proposer's RoB (Rest of Block).

- [Thread](#) by [Oana Barbu](#)

- [Thread](#) by [Oana Barbu](#)

- [Gas Sponsorship Idea](#) by [Quintus Kilbourn](#) presents an approach to gas sponsorship where apps are able to pay gas for users via SUAVE.

- [Agate - A Relay Data Indexer](#) by [0xpanoramix](#) introduces [Agate](#), an open-source data indexer for MEV-Boost relays that stores data in a Postgres database and can be run locally.

- [Validator consolidation in EIP-7251](#) by [Francesco D'Amato](#), [Mike Neuder](#), and [Mikhail Kalinin](#) explains [EIP-7251](#), designed to increase validators' maximum balance to 2048 ETH and introduces in-protocol consolidation

. * [Post](#) by [Mike Neuder

](https://twitter.com/mikeneuder)

- [Post](#) by [Mike Neuder

](https://twitter.com/mikeneuder)

# Posts & Threads

- [Kubi Mensah](#) published a [thread](#) that details the events that led to the temporary shutdown of [Titan Builder](#) on January 18th.

- [Yoni](#) published a [post](#) that visualizes the increased delay in the distribution of winning block bid times during the last four months.

- [EV3 Sal](#) published a [post](#) on how MEV extraction could occur in DePIN by hardware manufacturers manipulating the ordering of hardware onboarded onchain.

# Talks & Discussions

- [Bell Curve](#): [The Solution to Oracle Extractable Value](#) invites [Hart Lambur](#) and [Quintus Kilbourn](#) to dive into OEV and how [Oval](#) enables protocols to capture this value.

- [Into the Bytecode: UMA, Across, Oval, and MEV capture for protocols](#) invites [Hart Lambur](#) for a conversation on [UMA](#), [Across](#) and how protocols can capture OEV with [Oval](#).

- [Scraping Bits](#):

- [Exploring the Hidden Creativity of Exclusive Web3 Exploits](#) invites [Alex the Entreprenerd](#) to talk about exploits, audits, and how to build more resilient systems.

- [Curve Vyper Compiler Bug Whitehat & Building Ecosystem Tools](#) with [Addison](#) goes into detail of the [whitehat rescue](#) that saved $6M in the wake of the [Vyper compiler bug](#), building [Thunderhead](#), and more.

- [Exploring the Hidden Creativity of Exclusive Web3 Exploits](#) invites [Alex the Entreprenerd](#) to talk about exploits, audits, and how to build more resilient systems.

- [Curve Vyper Compiler Bug Whitehat & Building Ecosystem Tools](#) with [Addison](#) goes into detail of the [whitehat rescue](#) that saved $6M in the wake of the [Vyper compiler bug](#), building [Thunderhead](#), and more.

- [Node Operator Community Call #14](#) hosted by [Lido](#) includes a presentation by [Andreas H](#) that provides an overview of [Eden Network](#)'s [Mempool Stream service](#).

[Sign up here

](https://flashbots.net/the-mev-letter) if you'd like to get The MEV Letter straight to your inbox!

[Previous editions of The MEV Letter

](https://collective.flashbots.net/tag/the-mev-letter)[Join Flashbots

](https://www.flashbots.net/jobs)