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.

See our Transparency Reports for deeper dives into updates related to Flashbots.

Papers & Articles

- SoK: Cross-Domain MEV by Conor McMenamin looks at the current state of cross-domain MEV, analyzing the mechanism used, and proposed by protocols. The paper identifies “sequencers and order-flow auctions as cross-domain protocols with the greatest potential to mitigate MEV”.
- Tweet-thread by Conor McMenamin
- Tweet-thread by Conor McMenamin
- Relays in a post-ePBS world by Mike Neuder, Jon Charbonneau, Hasu, Tomasz K. Stańczak, Chris Hager, &Toni Wahrstätter describe the current role of relays in MEV-Boost and how they could persist, in a reduced form, under ePBS. The post also introduces a new in-protocol unconditional payment design referred to as Top-of-Block (ToB) Payments.
- Tweet-thread by Mike Neuder
- Tweet-thread by Mike Neuder
- The Second-Slot Itch - Statistical Analysis of Reorgs by Toni Wahrstätter presents a statistical analysis of reorgs, focusing on CL-clients and how certain slot indices in an epoch significantly affect reorg likelihood.
- Empirical analysis of Builders’ Behavioral Profiles (BBPs) by soispoke.eth creates Builders’ Behavioral Profiles (BBPs) from empirical data to summarize builders’ features and strategies, such as efficient transaction packing and bidding during MEV-Boost auctions.
- Tweet-thread by soispoke.eth
- Tweet-thread by soispoke.eth
- Exploring Protocol-Enforced Proposer Commitments(PEPC) by YQ explores the “potential benefits, open questions, roadblocks, and additional context around PEPC as an alternative path to unfetter proposers and allow permissionless innovation in outsourcing mechanisms.”
- Tweet-thread by YQ
- Tweet-thread by YQ
- Endgame: Proof of Governance by Jon Charbonneau looks at the tradeoffs between various sequencers and consensus mechanisms with regard to security, decentralization, governance, and economic efficiency.
- The post is a continuation of a podcast with Jon Charbonneau and Hasu
- Tweet-thread by Jon Charbonneau
- Tweet-thread response by Christine Kim
- The post is a continuation of a podcast with Jon Charbonneau and Hasu
- Tweet-thread by Jon Charbonneau
- Tweet-thread response by Christine Kim
- RIG Update #1 — EthCC[6] by Robust Incentives Group is an update from RIG highlighting recent publications and talks from EthCC[6].
- Decoding Intents: Revolutionizing Web3 User Experience and Orderflow in Blockchainby Grace Deng dives into the need for a simplified user experience in web3 and explores intent-driven interactions by reviewing implementations such as CowSwap and UniswapX.
- Tweet-thread by Grace Deng
- Tweet-thread by Grace Deng

- Vyper Nonreentrancy Lock Vulnerability Technical Post-Mortem Report published by Vyper is a post-mortem of the Vyper compiler re-entrancy bug that explores why the vulnerability was hard to spot, and what the ecosystem can learn from the incident.
- Tweet-thread by [Vyper

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

- Tweet-thread by [Vyper

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

Posts & threads

- SUAVE Centauri: Open-Sourcing suave-geth by dmarz announces the open-sourcing ofsuave-geth, an early version of the client that will power SUAVE and the MEVM ecosystem.
- [Capture the Flag

update](https://collective.flashbots.net/t/capture-the-flag/2100/2) by Fred announced the results from the FlashbotsMEV-Share CTF. * Tweet-thread by Shea Ketsdever

- Tweet-thread by Shea Ketsdever
- Guillaume Lambert published a thread with the goal to demystify IL, LVR, JIT and MEV by looking at LPing on AMMs as selling options.
- Tweet-thread response by snoopy
- Tweet-thread response by snoopy
- [Wenmerge

](https://twitter.com/Wenmerge2022) announced that their content-agnostic relay; Wenmerge MEV - Boost Relay is live on mainnet.

- Danning Sui published a thread on the impact private orderflow has on block building and how the landscape of block builders has evolved in recent months.
- Hannes published a thread collecting resources related EIP-4844 ahead of the upcoming Deneb upgrade.

Talks & Discussions

- LVR Reduction: The Biggest Open Problem in DeFi (Part One) hosted by Mallesh Pai and Max Resnick with guests Doug Colkitt and Al N dives into LVR, its impact on DeFi, and potential solutions to minimize it.
- Mechanism Design Deep Dive with Blockworks Research and SMG discuss mechanism design in the context of censorship resistance, private orderflow, and MEV.
- NOCC Shorts: Justin Drake on MEV Burn by Justin Drake explores MEV-Burn as a potential upgrade to Ethereum, equivalent to EIP-1559 but for MEV.
- Justin Drake - MEV burn at EthCC[6]
- Justin Drake - MEV burn at EthCC[6]
- Let’s get front-run on purpose! Will bots watching the Ethereum mempool steal $100 from us?by Austin Griffith is a live-coding session demonstrating a commit/reveal mechanic in Scaffold-ETH-2.
- Part 1 by Austin Griffith
- Part 1 by Austin Griffith

Other

- Mempool-dumpster by Chris Hager and Anton is a WIP application that dumps mempool transactions from EL nodes, and archives them in Parquet and CSV format.

- RFP: Block Bidding Economics on MEV-boost by tldresear.ch is an open RFP that aims to address concerns related to the centralization of block production on Ethereum, particularly by top builders who have proprietary information and competitive advantages.
- Seal 911 is a Telegram bot created by samczsun and a group of whitehats, auditors, and security leaders to help facilitate responsible disclosure and getting in touch with trusted members of the security community during emergencies.
- Builder-auction-stats by @CometShock and @0xvanbeethoven is an WIP approach to collect MEV-Boost Builder Auction data, store it in a PostgreSQL database, and generate analytics using the collected data.

Upcoming events

- Aug 17: MEV-Boost Community Call #5 hosted by Alex Stokes will discuss specification and implementation details of the upcoming Deneb upgrade, as well as eth_validatePayload and validator registrations onchain.
- Aug 31: MEV-SBC workshop aims to highlight important MEV research done in the past year and talks that will illuminate a new round of research problems the community should prioritize.

[Sign up here

](https://forms.gle/Qr6MEUkVa13TDipW6) if you'd like to get The MEV Letter straight to your inbox!

Previous editions of The MEV Letter