

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

- [Pricing Execution Rights when Rewards are Mean Reverting](#) by [@Christoph](#) argues that block rewards are mean reverting and derive the fair value of future proposal rights and of execution tickets assuming mean reversion.
- [It's time to talk about L2 MEV](#) by [@sui414](#) examines the state of L2s after the Dencun upgrade, focusing on activity, transaction fees, and MEV.
- [Thread](#) by [@sui414](#)
- [Thread](#) by [@sui414](#)
- [Adjusting the bidding strategy in the Flashbots block builder](#) by [@shea](#) presents a new bidding strategy in the Flashbots builder that dynamically adjusts the bid in response to other bids in the MEV-Boost auction.
- [Disclosure: Underflow bug in Mev-Boost relay](#) by [@shea](#) details an incident on June 10 where an underflow bug caused the [ultra sound relay](#) to accept an impossibly high bid.
- [Illuminating the blob market](#) by [@shea](#) discusses the unexpected inclusion order of blobs during surging activity on L2s, emphasizing the need for better visibility and strategies.
- [Thread](#) by [@shea](#)
- [Post](#) by [@bert](#)
- [Thread](#) by [@shea](#)
- [Post](#) by [@bert](#)
- [Blob Inversion: An Investigation Into the June 20th 2024 Blob Spike](#) by [Blair Marshall](#) details the surge in blob base fee on June 20 which exceeded the cost of calldata, leading to significant overpayments by L2s.
- [Thread](#) by [Blocknative](#)
- [Thread](#) by [Blocknative](#)
- [Constitutional AIP: Proposal to adopt Timeboost, a new transaction ordering policy](#) by [Arbitrum Foundation](#) proposes adopting [Timeboost](#) for Arbitrum chains to improve transaction inclusion and capture MEV.
- [FAQ](#) by [Arbitrum Foundation](#)
- [Thread](#) by [Ed Felten](#)
- [Thread](#) by [Entropy Advisors](#)
- [Post](#) by [Terence Tsao](#)
- [Post](#) by [Alex Nezlobin](#)
- [FAQ](#) by [Arbitrum Foundation](#)
- [Thread](#) by [Ed Felten](#)
- [Thread](#) by [Entropy Advisors](#)
- [Post](#) by [Terence Tsao](#)
- [Post](#) by [Alex Nezlobin](#)
- [Orbit SSF: solo-staking-friendly validator set management for SSF](#) by [Francesco](#) examines different approaches to validator capping while maintaining solo staking viability.
- [Thread](#) by [Francesco](#)
- [Thread](#) by [Francesco](#)
- [Epochs and slots all the way down: ways to give Ethereum users faster transaction confirmation times](#) by [Vitalik](#)

[Buterin](#) discusses ways to improve transaction confirmation times, including SSF and preconfirmations.

- [Estimating Validator Decentralization Using p2p Data](#) by [Jonas](#) and [Naman Garg](#) presents research done under [ROP-8](#) to analyze the geographical distribution of Ethereum validators.
- [Thread](#) by [Thomas Thiery](#)
- [Thread](#) by [Thomas Thiery](#)
- [Crypto Crossroads: Reflections from an IC3 Summer Camp Rookie](#) by [@PradyumnaShome](#) describes their experiences from participating in the IC3 summer camp, and thoughts on topics such as TEEs and MEV.
- [Fork Choice Attacks and Protections in EPBS](#) by [Terence Tsao](#) explores fork choice attacks through the perspective of ePBS, focusing on the new fork choice boost parameters and the rationale behind their design.
- [Pricing Gas Fee Derivatives](#) by [Finn Casey Fierro](#) outlines a methodology for understanding and pricing gas derivatives.
- [ETH Supply Chain Future](#) by [Jon Charbonneau](#) discusses various proposals related to APS, ET, EA, IL, MEV burn, and multi-block MEV.
- [Reply](#) by [Barnabé Monnot](#)
- [Reply](#) by [Toni Wahrstätter](#)
- [Reply](#) by [Barnabé Monnot](#)
- [Reply](#) by [Toni Wahrstätter](#)
- [Inclusion Lists Don't Fix Multi-Block MEV in APS](#) by [Charlie Noyes](#) discusses the potential issues of multi-block MEV in APS, and why ILs are ineffective in solving these problems.
- [Reply](#) by [Barnabé Monnot](#)
- [Reply](#) by [Barnabé Monnot](#)
- [ETH Staking Security: How Risk-Adjusted Rewards Mitigate Forked Software Threats](#) by [Figment](#) explores risk-adjusted rewards for validators, timing games, and the risks associated with running forks of MEV-Boost.
- [From Censorship to Centralization: 4 Dimensions of Ethereum Relay's Public Goods Problem](#) by [EigenPhi](#) explores the MEV-Boost relay landscape and the risk of centralization and censorship.
- [The Hidden Goldmine on L2s](#) by [Austin Marrazza](#) gives an overview of how L2s can capture revenue via arbitrage auctions.

Posts & Threads

- [Barnabé Monnot](#) published a [thread](#) emphasizing that the benefit of execution auctions

over execution tickets

is not about preconfirmations, and that APS is not just for based rollups and preconfirmations.

- [Barnabé Monnot](#) published a [thread](#) to discuss how [rainbow staking](#) fits in a larger roadmap for staking, and its benefits and trade-offs.
- [Terence Tsao](#) published a series of posts related to [timing games](#), [ePBS and preconfirmations](#), [multi-block MEV](#), and [block actions vs slot auctions](#).
- [Alex Nezlabin](#) published a [post](#) expressing concerns related to markets for future blockspace and their implications on multi-block MEV and censorship.
- [Reply](#) by [Thomas Thiery](#)
- [Reply](#) by [Potuz](#)
- [Reply](#) by [Thomas Thiery](#)
- [Reply](#) by [Potuz](#)
- [Miha Lotric](#) published a [thread](#) to present the [bottom-of-the-block backrunning SUAPP](#) built during the [Crucible hackathon](#).

- [Kevin](#) published a [thread](#) that compares SGX to TDX, and provides an overview of SEAM and VMX.
- [Jonah Burian](#) published a [post](#) on the interplay between ILs and multi-block MEV.
- [Potuz](#) published a [thread](#) sharing their thoughts on based rollups, preconfirmations, and where to go from here.
- [Michael](#) published a [post](#) on delegated gateway designs, and why they will fail to prevent centralization due to multi-block MEV and switching costs.
- [Jon Charbonneau](#) published a [thread](#) to express concerns related to the development of centralized infrastructure for preconfirmations and based sequencing.
- [Michael Ippolito](#) published a [thread](#) on the topic of PBS, preconfirmations and Ethereum's roadmap.
- [Dan Robinson](#) published a [thread](#) to summarize proposed mechanisms for improved censorship resistance.
- [Charlie Noyes](#) published a [thread](#) that questions why rollups would choose to become based.
- [Reply](#) by [Davide Crapis](#)
- [Reply](#) by [MilliΞ](#)
- [Reply](#) by [Davide Crapis](#)
- [Reply](#) by [MilliΞ](#)
- [Charlie Noyes](#) published a [thread](#) to express their thoughts related to making L1 more attractive for apps, maximizing DA, and stabilizing MEV.
- [Reply](#) by [Jonah Burian](#)
- [Reply](#) by [Jonah Burian](#)

Talks & Discussions

- [Flashwares: What do MEV apps want from TEEs anyway?](#) by [@mateusz](#) and [@dmarz](#) explores the process of designing and building SUAPPs.
- [Forum post](#) by [@mateusz](#)
- [Thread](#) by [@dmarz](#)
- [Forum post](#) by [@mateusz](#)
- [Thread](#) by [@dmarz](#)
- [SUAPP Development: Setting Up a SUAPP](#) by [@brock](#) builds a SUAPP from scratch, and showcases everything you need to know in order to start building your own.
- [Bell Curve: Ethereum's Path Forward: Aligning Security and Monetary Policy](#) invites [@Hasu](#) and [Justin Drake](#) to discuss restaking, preconfirmations, MVI, and more.
- [MEV-Boost community call #9](#) hosted by [Alex Stokes](#) brought together the MEV-Boost community to discuss [Commit-Boost](#), the recent [relay underflow bug](#), the blob market, and more.
- [Agenda](#) by [Alex Stokes](#)
- [Agenda](#) by [Alex Stokes](#)
- [ePBS breakout room #2](#) hosted by [Potuz](#) discussed concerns related to the timing of block processing, fork choice specification, PTC rewards, and more.
- [Agenda](#) by [Potuz](#)
- [Notes](#) by [Terence Tsao](#)
- [Agenda](#) by [Potuz](#)
- [Notes](#) by [Terence Tsao](#)
- [ePBS breakout room #3](#) hosted by [Potuz](#) reviewed the latest progress on the consensus specification, and the effort of

rebase to the latest Electra release.

- [Agenda](#) by [Potuz](#)
 - [Notes](#) by [Terence Tsao](#)
 - [Agenda](#) by [Potuz](#)
 - [Notes](#) by [Terence Tsao](#)
 - [Indexed Podcast: Should we Keep Event Logs on Ethereum??](#) with [Boxer](#), [Danning Sui](#) and [hildobby](#) invites [Alvin Hsia](#) and [Mark Tyneway](#) for a conversation on event logs and their impact on growth and scaling.
 - [Into the Bytecode: OneBalance, credible accounts and credible commitments](#) invites [Stephane Gosselin](#) to discuss credible commitment machines, the CAKE framework and the Credible stack
- . * [Post](#) by [Sina Habibian](#)
- [Post](#) by [Sina Habibian](#)

Other

- [Request for SuApp: Kettle Cash](#) by [@socrates1024](#) describes the potential for TEEs to provide One-Shot Signatures.
- [Thread](#) by [@socrates1024](#)
- [Thread](#) by [@socrates1024](#)
- [Destructive Hardware Trojan Detection Protocol Brainstorming](#) by [@Quintus](#) explores a decentralized quality assurance protocol to defend against TEEs that are maliciously built to deviate from specification.
- [Releasing Reth 1.0!](#) by [Georgios Konstantopoulos](#) announces the release of [Reth 1.0](#) as a production-ready EL-client written in Rust.
- [Thread](#) by [Georgios Konstantopoulos](#)
- [Thread](#) by [Georgios Konstantopoulos](#)
- [Execution layer cross-validation](#) by [Péter Szilágyi](#) emphasizes the need for client diversity and proposes a method to verify blocks using multiple clients.
- [Post](#) by [Péter Szilágyi](#)
- [Post](#) by [Péter Szilágyi](#)
- [issuance.wtf](#) by [caspar](#) is a collection of resources related to Ethereum issuance.

Upcoming events

- July 7
- : [Anti MEV MEV Day](#) by [Unaligned Hauz](#) and [SemanticLayer](#)
- July 7
- : [Sequencing x CAKE day](#) by [Espresso](#) and [Frontier Research](#)
- July 8-11
- : [EthCC](#) by [Ethereum France](#)
- July 8
- : [Searcher.wtf](#) by [aori](#), [Flood](#), [Chainbound](#), [PropellerHeads](#), [bloXroute Labs](#) and [Barter](#) * [Agenda](#) by [aori](#)
- [Post](#) by [aori](#)
 - [Post](#) by [Taker](#)
 - [Agenda](#) by [aori](#)

- [Post](#) by [aori](#)
- [Post](#) by [Taker](#)
- July 9

: [L2con](#) by [Epic Web3](#)

- July 9

: [Kiln Rendez-Vous EthCC 2024](#) by [Kiln](#) * [Post](#) by [Kiln](#)

- [Post](#) by [Kiln](#)
- July 10

: [FHE Summit](#) by [FHE Onchain](#)

- July 10:

[The entrenched: dApps and their MEV](#) by [Sorella Labs](#) and [Fenbushi Capital](#)

- July 11

: [State of Onchain Liquidity](#) by [Flashbots](#), [Uniswap Foundation](#) and [PropellerHeads](#) * [Thread](#) by [PropellerHeads](#)

- [Thread](#) by [PropellerHeads](#)
- July 11

: [Unaligned Day](#) by [FastLane Labs](#) * [Thread](#) by [Alex Watts](#)

- [Thread](#) by [Alex Watts](#)
- [Thread](#) by [Alex Watts](#)
- [Thread](#) by [Alex Watts](#)
- July 11-13

: [Modular Summit 3.0](#) by [Celestia Labs](#) and [Maven11](#)

- Aug 6

: [The MEV Workshop at the Science of Blockchain Conference 2024 \(MEV SBC '24\)](#) by [Flashbots](#)

- Aug 7-9

: [The Science of Blockchain Conference 2024 \(SBC'24\)](#) by [IC3](#), [Stanford Center for Blockchain Research](#) and [UC Berkeley RDI](#).

- Aug 16-17

: [Frontiers](#) by [Paradigm](#) * [Thread](#) by [Georgios Konstantopoulos](#)

- [Thread](#) by [Georgios Konstantopoulos](#)

[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>)