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

- The Economic Limits of Permissionless Consensus by Eric Budish, Andrew Lewis-Pye, and Tim Roughgarden explores the difficulties of maintaining security in permissionless consensus protocols, and introduce EAAC

(expensive to attack in the absence of collapse) as a property to describe protocols where these attacks are prohibitively expensive. * Thread by Tim Roughgarden

- Thread by Tim Roughgarden
- Where the execution ticket discussion actually should startby Quintus Kilbourn suggests generalizing ETs further by replacing the proposing key with a proposing check

to enable an easier implementation of PEPC, distributed block-builders, and more. *Thread by Quintus Kilbourn

- Thread by Quintus Kilbourn
- Cross chain Batch DEX by Alphaist and Tomoki Adachi presents a DEX design that aggregates orders across multiple domains using SUAVE.
- Implementing Frequent Batch Auction on SUAVE by Banri Yanahama and Alphaist describes the implementation of a FBA on SUAVE.
- The near and mid-term future of improving the Ethereum network's permissionlessness and decentralizationby Vitalik Buterin replies to the concerns raised by Péter Szilágyi related to MEV, builder dependence, liquid staking and hardware requirements.
- Introducing OneBalance by Stephane Gosselin and Ankit Chiplunkar introduces a framework for creating and managing accounts on credible commitment machines.
- Derivatives Market for Implementing Based Sequencing by Tariz presents a derivatives market designed to implement based sequencing for fast finality in rollups.
- Thread by Tariz
- Blog post by Tariz
- Thread by Tariz
- Blog post by Tariz
- An interface for cross chain trade execution systemsby Uniswap Labs and Across propose a new standard for cross-chain intents designed to mitigate fragmentation through a universal filler network.
- Thread by Uniswap Labs
- Thread by Uniswap Labs
- Better blockchains lead to more profitable liquidity providers by Felipe Montealegre details how faster block times reduce LVR and leads to better returns for LPs.
- An alternative to trailing state root by Potuz suggests implementing ePBS with a PTC that only attests to the existence

of the payload, instead of validating it.

Posts & Threads

- Péter Szilágyi published a thread arguing that Ethereum is centralizing into a system similar to traditional finance as a result of design decisions related to MEV, PBS and restaking.
- Reply by Dankrad Feist
- Reply by Hudson Jameson
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- Data Always published a series of posts to highlight recent data from the MEV-Boost landscape.
- Thread with data of how builders exclude low-fee transactions in their blocks to optimize their bids.
- Thread that shows the impact of relays

delaying the getHeader

response to allow higher bids to come in during request time.

- Post that highlights how the majority of block value comes from private orderflow, inaccessible to local block builders.
- Post that show blocks sourced from MEV-Boost are roughly 5 times more valuable than locally built blocks.
- Post displaying an increase in locally built blocks as a result of execution layer rewards dropping below the min-bid

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- brock published a thread showcasing a prototype of the ChatNFT SUAPP that mints NFTs on Ethereum using ChatGPT to generate the NFT's data.
- dmarz published a thread with live commentary during the presentations held atResearch Day hosted by Celestia, DBA and iqlusion.
- Kartik Nayak published a thread with findings from their recent paper that explores the increasing centralization of the builder market and possible directions to improve decentralization.

Talks & Discussions

- Intro to TEEs and SGX by Moe Mahhouk introduces Intel SGX and explores a set of use cases and features in a hands-on live session.
- Forum post by Moe Mahhouk
- Forum post by Moe Mahhouk
- Ethereum Sequencing and Preconfirmations Call #8 invites George Spasov to presents work by LimeChain on vanilla based rollups and vanilla based preconfirmations.
- Agenda by Josh Rudolf
- Notes from Drew Van der Werff and Sam Jernigan
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- EthStaker: Community Call #39: ePBS - enshrined Proposer Builder Separation invites Terence Tsao and Barnabé Monnot to discuss the latest research and implementation details related to ePBS.
- Was PBS a mistake? with 𝔐iLLiΞ X, Uri Klarman, Alex Watts, Doug Colkitt and Gwart discusses PBS and the evolution of the landscape since the merge.
- Part II

- Part II

Other

- CHANGELOG #5 - SUAVE Development Updates (May 16, 2024) by Andy provides details of the latest developments related to SUAVE, including updates to suave-geth, suave-std, and suapp-examples.
- Request For Proposals by tldresear.ch presents the TLDR problem spaces for 2024-2025 with RFPs related to MEV-resistant L2 sequencers, blockspace futures, collusion resistance, and more.
- Post by tldresear.ch
- Post by tldresear.ch
- Censorship eviction by Péter Szilágyi outlines a proposal to improve censorship-resistant by making the contents of the public transaction pool influence the fork choice.
- Post by Péter Szilágyi
- Post by Péter Szilágyi
- MEV Boost ETL by Eden Network contains the code and infrastructure for managing the extraction, transformation, and loading (ETL) processes for MEV-Boost data, including both bids and payloads.

Upcoming Events

- May 21

: Flashwares ii: end-to-end useful enclave in Gramine/Python; into to Controlled Channel attacks by Andrew Miller will be a live session that goes through an end-to-end application in Gramine, and introduce Controlled Channel attacks

. * Slides by Andrew Miller

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