A rollup-centric ethereum roadmap

ethereum-roadmap, layer-2

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What would a rollup-centric ethereum roadmap look like?

Last week the Optimism team announced 755 the launch of the first stage of their testnet, and the roadmap to mainnet. They are not the only ones; Fuel 479 is moving toward a testnet and Arbitrum 329 has one. In the land of ZK rollups, Loopring 364, Zksync 365 and the Starkware-tech-based Deversifi 279 are already live and have users on mainnet. With OMG network's mainnet beta 319, plasma is moving forward too. Meanwhile, gas prices on eth1 are climbing to new highs, to the point where some non-financial dapps are being forced to shut down 1.0k and others 301 are running on testnets.

The eth2 roadmap offers scalability, and the earlier phases of eth2 are approaching quickly, but base-layer scalability for applications is only coming as the last major phase of eth2, which is still years away. In a further twist of irony, eth2's usability as a data availability layer for rollups comes in phase 1, long before eth2 becomes usable for "traditional" layer-1 applications. These facts taken together lead to a particular conclusion: **the Ethereum ecosystem is likely to be all-in on rollups (plus some plasma and channels) as a scaling strategy for the near and mid-term future**.

If we start from this premise, we can see that it leads to some particular conclusions about what the priorities of Ethereum core development and ecosystem development should be, conclusions that are in some cases different from the current path. But what are some of these conclusions?

The Short Term: Advancing Eth1 for Rollups

In the short term, one major outcome of this is that **Ethereum base-layer scaling would primarily be focused on scaling how much data blocks can hold, and not efficiency of on-chain computation or IO operations**. The only determinant of the scalability of a rollup is how much data the chain can hold, and any increase beyond the current ~60 kB/sec will help increase rollups' scalability further.

There are some things that would continue to matter at the base layer:

- EIP 2929 556, to ensure that the chain is safe against DoS attacks at current gas levels
- EIP 1559 379, both for the ETH burn and for the benefit of making it easy to send transactions that almost certainly get into the next block (which rollups still depend on for confirmations)
- New elliptic curve precompiles, to fully support what people want to do with
- The hex -> binary tree change and other changes to advance support for s
  clients (as stateless clients are valuable regardless of how the chain is being used)