

Interesting and well put together research- thank you.

What do you make of the proposed Arbitrum solution of a priority fee within global network latency? It seems strong to me in that it makes latency investment finite for FCFS (similar to your auction charts) and in a very simple way compared to a complex auction model.

I'd also say that looking only at the negative externalities of latency wars without considering the (IMO) more significant negative externalities of frontrunning / toxic MEV which are harmful to users and price discovery is too narrow (frontrunning / toxic MEV are hugely reduced by FCFS ordering vs 12sec block MEV Auctions).

EDIT: "incentives to gain a latency advantage never goes away" isn't quite true. Spend on latency advantages is capped at total profit, it isn't infinite. You won't spend \$20m on colocation if you're only making \$19m. This is why the Arbitrum idea is strong, because it effectively lowers this existing cap to sensible levels.