Considering technical improvements, such as hardware (and part of what I'm researching ideas on for things like powering network scale simulations, and also core EF researchers are writing papers on hardware designs), can arguably be just as important as any software improvements, I propose we create a dedicated hardware forum topic + in discord EF R&D channel.

Eg. To discuss tradeoffs on changing hardware requirements to users over time. Eg. a new breakthrough in SSD, GPU technology or some ASIC/FPGA cryptography design makes X more scalable by a lot in Ethereum, but would cost X dollars and all users would need to add this to their nodes.

References:

There are two ways to try to scale a blockchain: fundamental technical improvements

, and simply increasing the parameters

vitalik.ca

The Limits to Blockchain Scalability

Computing power: what % of the CPU can we safely demand to run a node?

Bandwidth: given the realities of current internet connections, how many bytes

can a block contain?

Storage: how many gigabytes on disk can we require users to store? Also, how quickly must it be readable? (ie. is HDD okay or do we need SSD)

ethereum.org

Zero-knowledge proofs | ethereum.org

An non-technical introduction to zero-knowledge proofs for beginners.

"Generating zero-knowledge proofs involves very complex calculations best performed on specialized machines. As these machines are expensive, they are often out of the reach of regular individuals."

docs.zkproof.org

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](https://docs.zkproof.org/pages/standards/accepted-workshop3/sok-hardware_acceleration.pdf)

sok-hardware_acceleration.pdf

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