First of all, I have to say the current overview page of rollups on L2beat is incredible. So much information presented in such a great way. Congratulations.

Optimistic Rollups don’t actually work in practice

- As we know Optimistic Rollups (ORUs) are a layer-2 scaling solution for Ethereum that operate on the optimistic assumption that bundled transactions are valid. To maintain trust in this decentralized system, they use mechanisms like economic bonds and a challenge period to catch and prove faults.

However, traditional methods of proving faults can be computationally expensive - there is a reason Optimism still isn’t live with fault proofs. The only system currently in production is Arbitrum, which I wuld describe as Interactive Fault Proof via Single Step Replay

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ZK Fault Proofs

- There is a new game in town that projects are calling “ZK Fault Proofs” that aim to make this verification process more efficient. By using Zero-Knowledge proofs, these methods aim to prove transaction validity or fault with a minimal computational footprint, streamlining the process while maintaining system integrity. You can check projects like: Eclipse, Fuel, LayerN, Morphism to see what its about.

Now here is where the “ZK Rollup” term comes into being super misleading.

There are now two different types of rollups

that use ZK tech - you could call the pessimistic

(always prove validity) and optimistic

(prove only when challenged) - but they both utilize zk proofs!

This is going to create a LOT of confusion.

However, I think we can frontrun this problem as a community and come up with naming that works and actually makes sense. Does anyone have a suggestions?