Major Trends in the Layer 2 Ecosystem

Where We Are and Likely Upcoming Themes

Faina Shalts

Lead Blockchain Engineer, ConsenSys (Truffle)

@bitsplaining

Notable Themes

Offchain Data

- ZK Rollups:
  - Validiums
  - Volitions
- Optimistic Rollups:
  - Arbitrum Nova
  - MetisDAO's Optimistic Data Availability

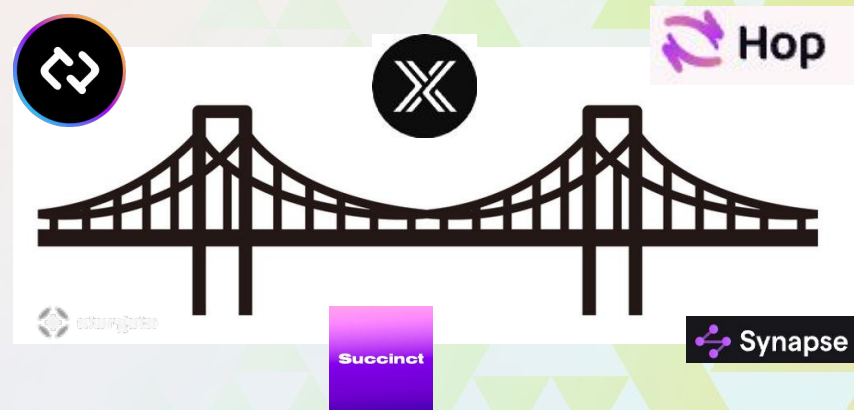What does this mean for security?

Innovations in Bridging

Centralization problem born of need for crosschain liquidity

Fees kept by these centralized protocols

Innovation is coming!

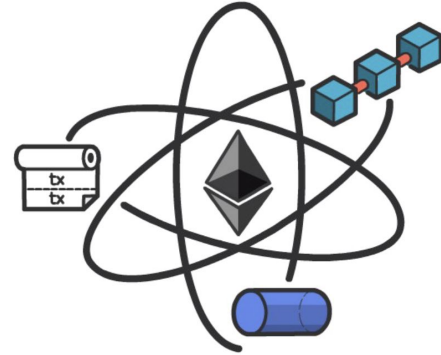ZK proofs to allow for light clients and "proof of consensus" across protocols

Bridge monitoring and risk analysis: L2Beat!
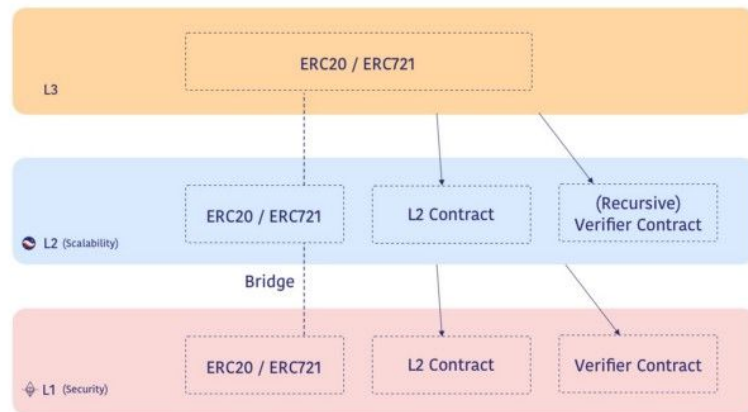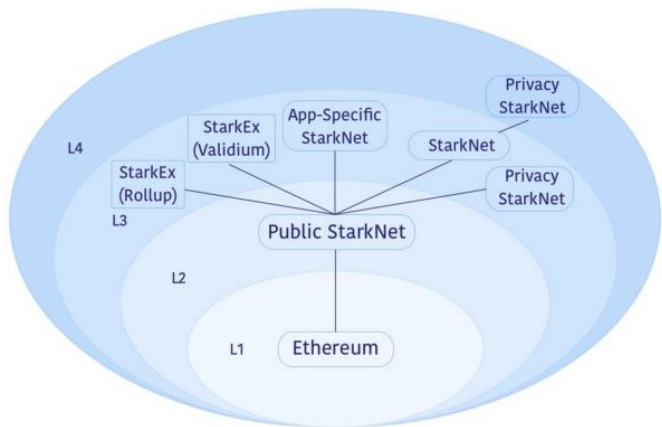
Optimistic Optimizations

- Hybrid solutions and modularity
- Arbitrum Nitro
- Optimism Bedrock
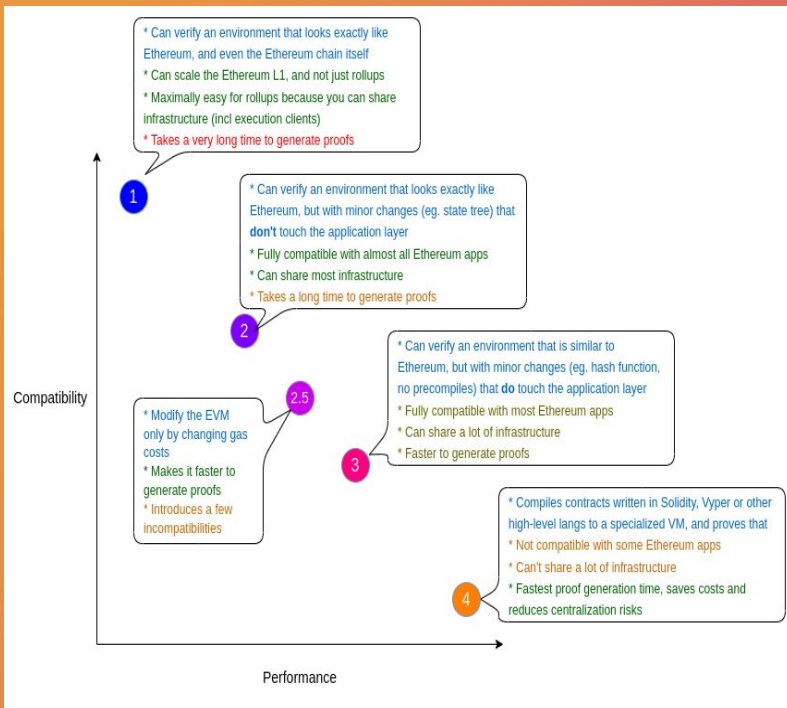- Prover diversification & decentralization

Layer 3, a.k.a. Fractal Scaling

Recursive proofs → customization through Layer 3 options!

Many possible uses: privacy, permissioned apps, appchains, etc.

Is zkEVM the holy grail?

- Compatibility with existing tools
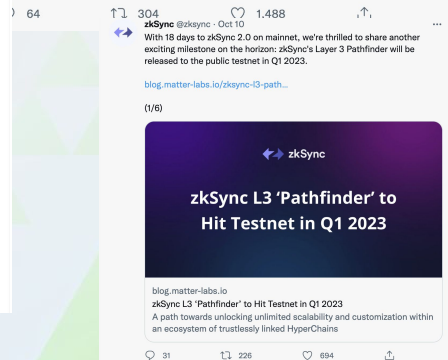- Shorter waiting period to withdraw funds
- Math!

Not So Fast...

- No live solutions on mainnet (yet!)
- Technically very difficult to accomplish

Developing Themes:

- Debate: "true" zkEVM
- Prover efficiency
- Striving toward full compatibility with existing EVM tooling
- Layer 3

The ZK Rollup Wars Have Begun!

Honorable Mentions

Some more trends to keep an eye on!

Applications of Account Abstraction

Modular blockchain designs

NFTs and NFT bridging on Layer 2

EVM-native rollups (Specular)

Privacy-focused Layer 3 dapps

"Gigarollups" : shared state and proofs

Staying On Top of Layer 2 Developments

All a little dizzying, isn't it? Some twitter accounts that will make it easy to stay on top of new developments (there are many more but it's a start!):

@pseudotheos

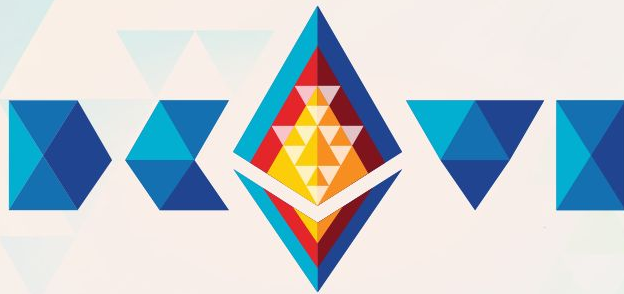@opopossum

@Swagtimus

@0xNurstar

@omg_its_pepe

@Starknet_intern

Layer 2 is here, changing fast, and bringing some of the most exciting innovations imaginable to the Ethereum ecosystem!

Thank you!

Faina Shalts

Lead Blockchain Engineer, ConsenSys (Truffle)
faina.shalts@consensys.net

@bitsplaining