



METIS

HYBRID ROLLUPS

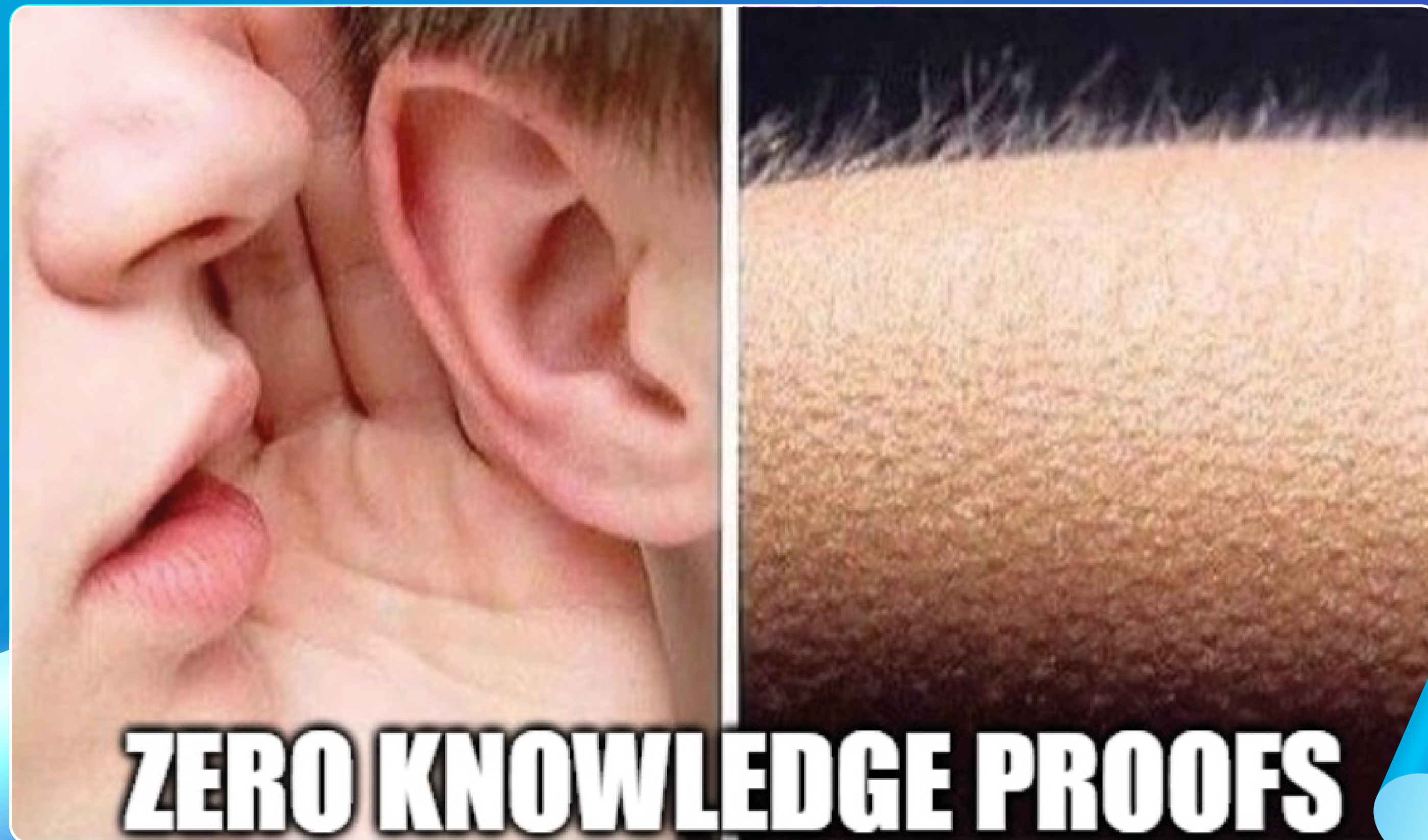
A LOOK INTO
THE FUTURE



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ZERO KNOWLEDGE PROOFS

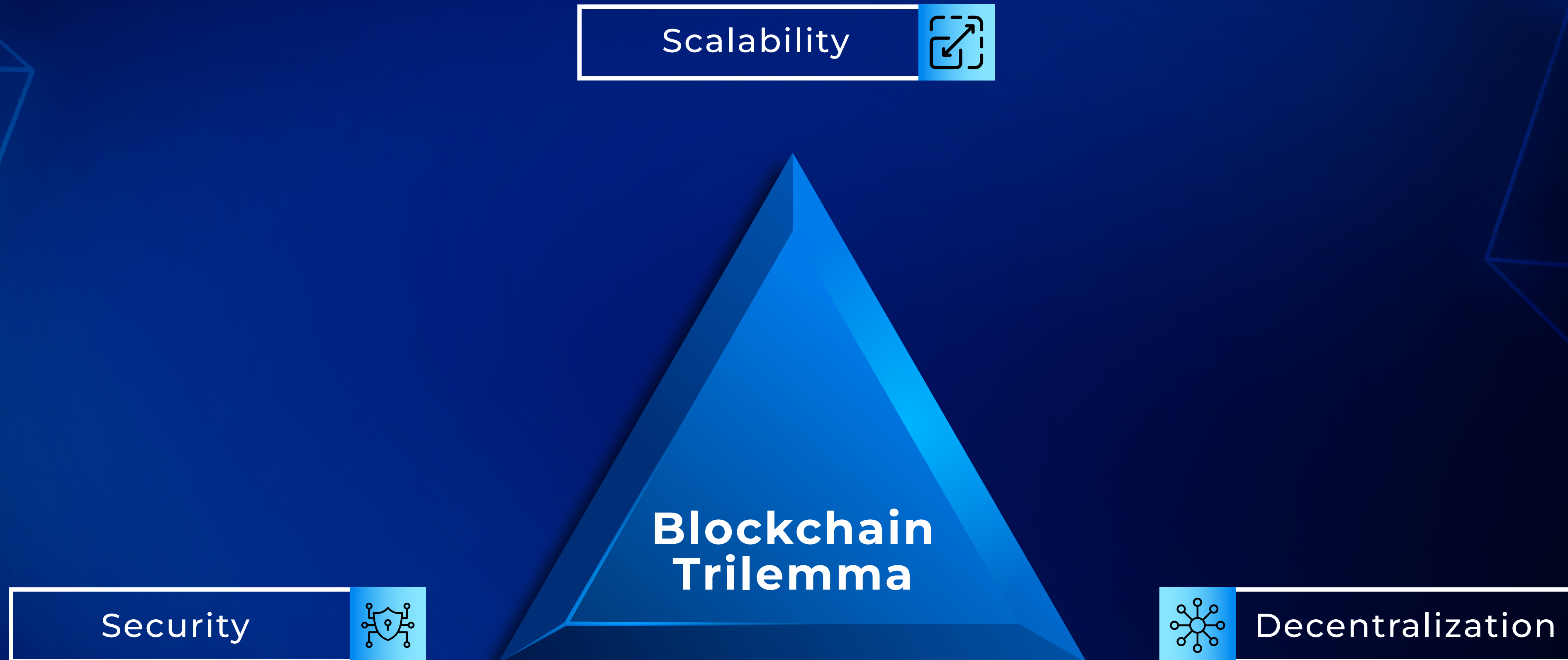
2023

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BACK TO THE FUNDAMENTALS



HOW TO SCALE: **ROLLUPS**

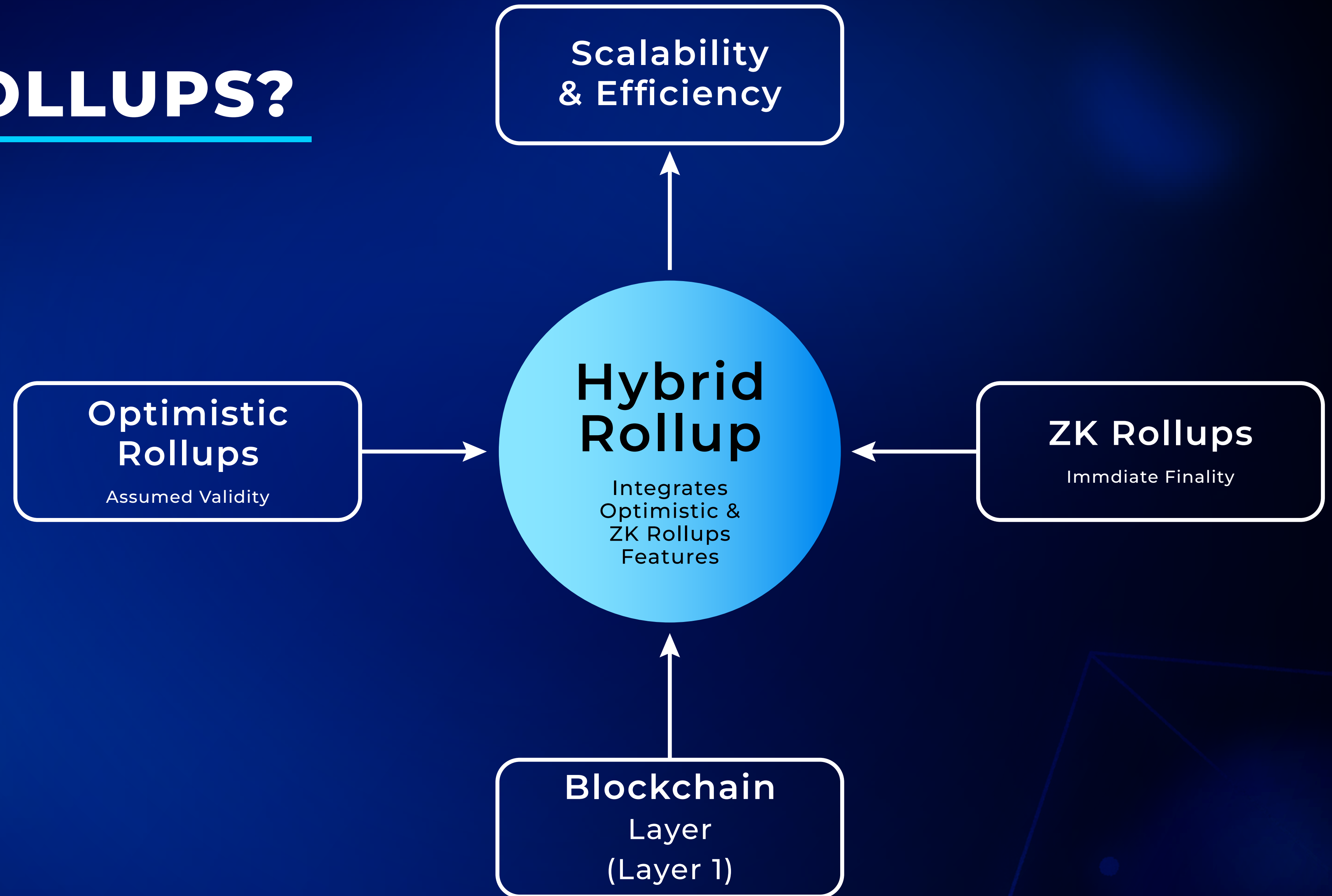


Rollups are Layer 2 scaling solutions for blockchains that perform transaction execution outside the main Ethereum chain (layer 1), but post transaction data on it

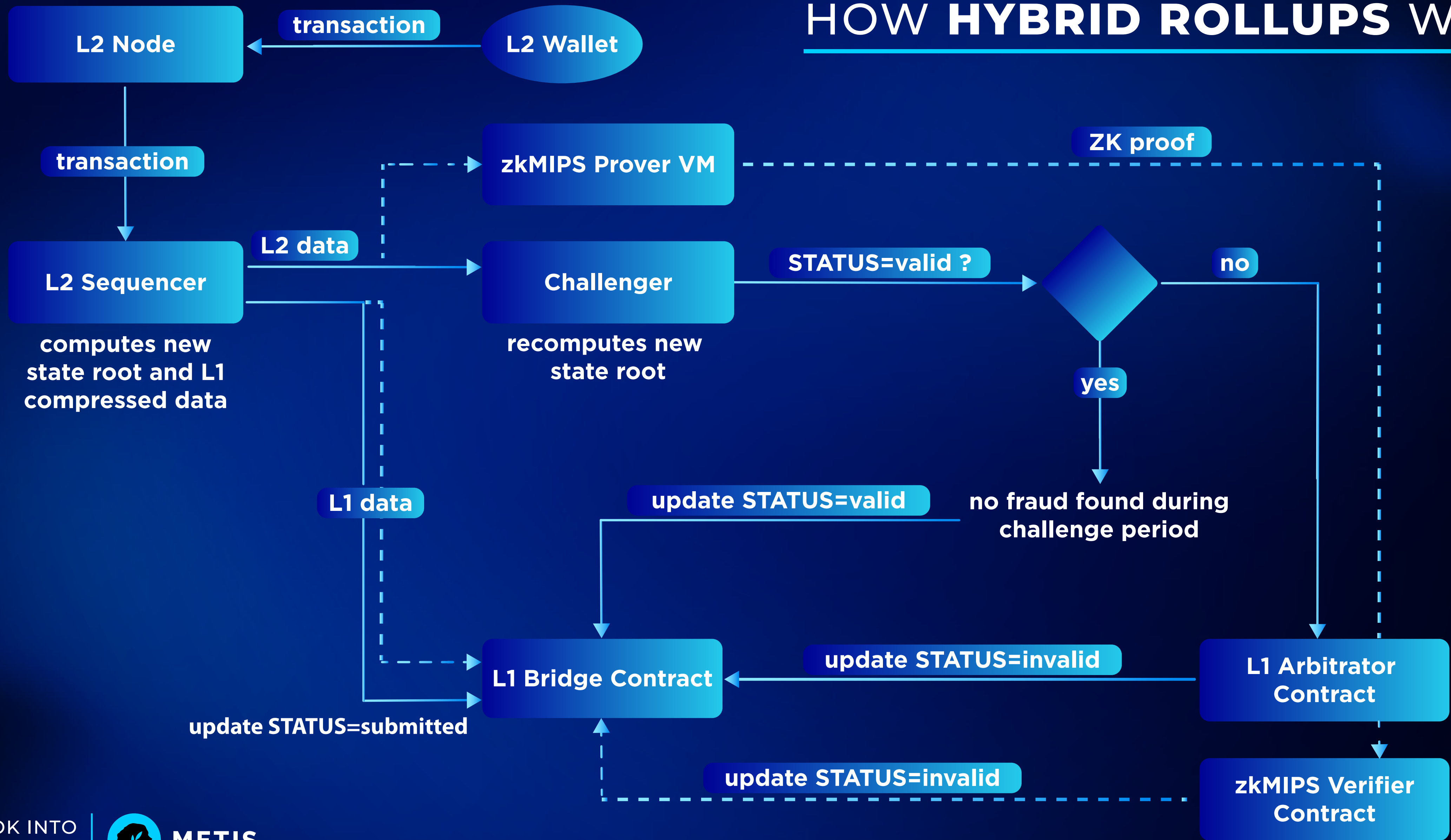
Feature	ZK Rollups	Optimistic Rollups
Core Technology	Zero-Knowledge Proofs (zk-SNARKs or zk-STARKs)	Fraud Proofs
Transaction Processing	Off-chain with a cryptographic proof of correctness	Off-chain, assumed correct unless challenged
Data Availability	Data necessary for reconstructing transactions is posted on chain	State changes are posted on-chain, allowing for later verification
Finality	Immediate upon proof verification	Delayed, contingent on a challenge period
Security Model	Cryptographic proof ensures all transactions are valid	Transactions are considered valid if no fraud proof is submitted during the challenge period
Challenge Period	Not applicable (no challenges due to upfront proof)	Exists, typically ranging from several hours to a week
Computational Intensity	High (due to the complexity of generating ZK proofs)	Lower (no complex proofs required)
Privacy	Enhanced (transaction details are not disclosed)	Standard (details are not disclosed, but no enhanced privacy compared to ZK Rollups)
Scalability Impact	High (efficient use of blockchain space and quick finality)	Moderate (efficient, but finality delay reduces throughput)
Use Cases	High-value transactions, privacy-centric applications	General applications where immediate finality is not critical

TYPES OF ROLLUPS

WHAT ARE HYBRID ROLLUPS?

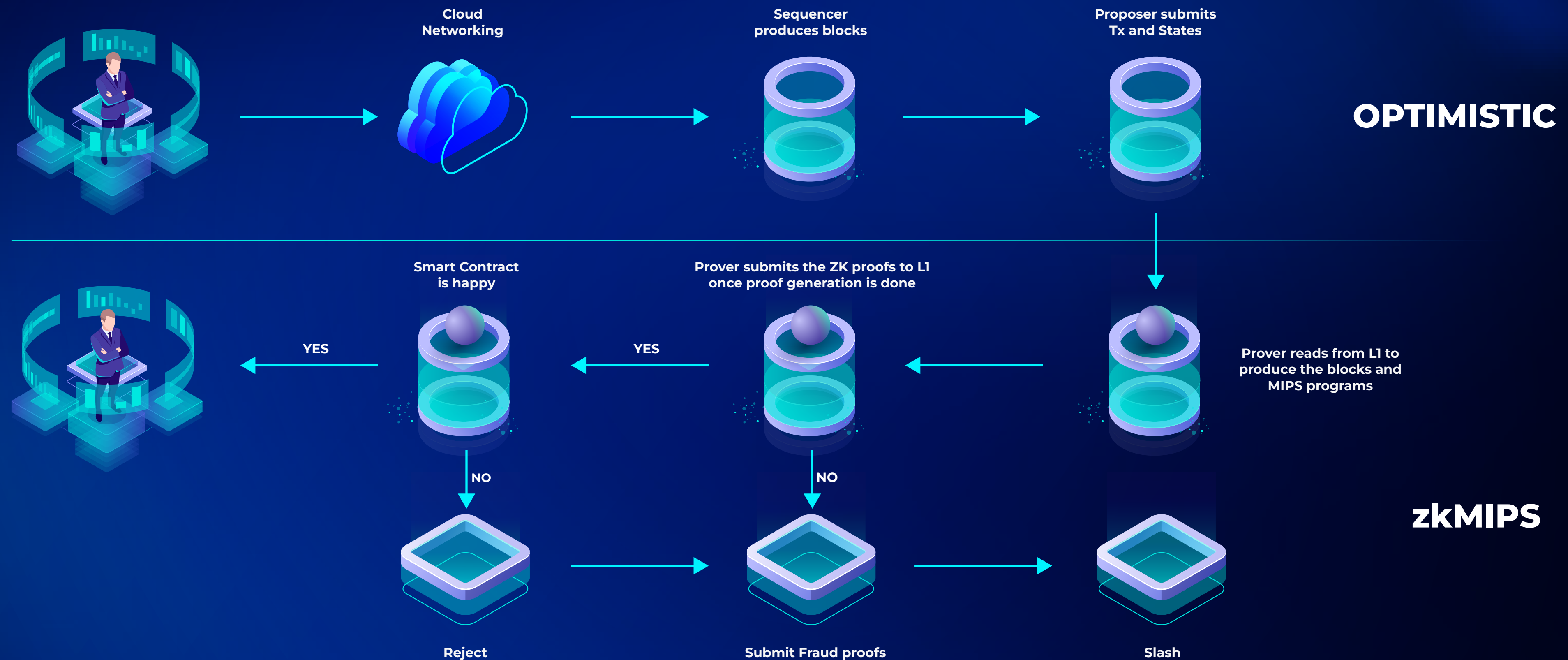


HOW HYBRID ROLLUPS WORK



HYBRID ROLLUPS IN PRACTICE

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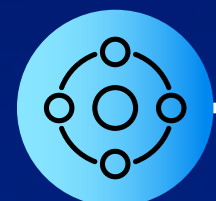


Improving the optimistic rollup architecture to expedite the process of withdrawals and dispute processes between verifier and the sequencer. In practice, that means changing the challenger contract to ZK Interactive Circuit

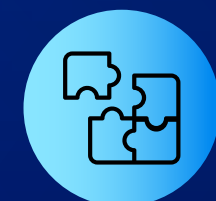
CURRENT OUTLOOK



ADOPTION



INTEROPERABILITY



TOOLING AND
INTEGRATIONS



IMPROVED EFFICIENCY



(HARD TO PREDICT)

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BEYOND LAYER 2 AND BLOCKCHAIN

A blue circle containing a white square with the letters "ALT" inside.

ALT

Alt L1s
(BNB, Celo, etc.)



IoT security
(tamper-proof IoT devices)



Cloud
Computing

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THANK YOU!



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