

## **Executive Summary**

Zenith Ledgers propose a solution for scaling tokens and tokenized assets by implementing a payments-specific protocol layer. The project aims to address the challenges of simple payments or asset transfer fees due to complex computation fees. By creating a token-specific app chain or roll app using the Rootstock blockchain, Bitcoin's execution client, a sequencer, and the BNB rollup chain, Zenith Ledgers aims to revolutionize the payment infrastructure and further advance the tech ecosystem. The project has the potential to scale simple payments or asset transfers while leveraging the protocol attributes of Bitcoin and the security of the BNB chain.

## **Background & Context**

Traditional payment systems need help with high transaction volumes, bottlenecks, slow processing times, and high costs. Zenith Ledgers aim to overcome these challenges by separating payment or asset transfer fees from compute network fees through roll-up technology. This approach offers a unique solution to improve payment infrastructure.

## **Value Proposition**

The solution provided by Zenith Ledgers is innovative and effective in addressing the challenges faced by traditional payment systems. By leveraging Rootstock, Bitcoin's execution client, and the BNB rollup chain, the project separates payments from on-chain computations, significantly advancing. The key benefits of this solution include scalability, improved transaction speed, lower costs, and enhanced security.

## **Technical Description**

The project incorporates a robust modular roll-up node architecture consisting of an execution client (e.g., op-geth) and a consensus client (e.g., op-node). This architecture enables efficient operation in the sequencer and verifier modes, facilitating seamless block-building and transaction verification processes.

The execution client plays a crucial role in the roll-up node by handling various tasks. It manages execution payloads, ensuring smooth transaction handling, state management, and the ability to re-execute transactions when necessary. Additionally, the execution client supports the execution engine, Bitcoin's scripting engine. By leveraging the execution client, the project ensures the proper functioning and execution of transactions within the roll-up node.

On the other hand, the consensus client takes charge of essential functionalities such as block building, gossiping, and consensus logic. It orchestrates the process of constructing blocks by gathering and organizing transactions. Moreover, the consensus client facilitates information exchange and synchronization between the roll-ups network and the basechain's network, ensuring a consistent and up-to-date state.

To enable seamless interaction with the broader blockchain ecosystem, users can spin up an OP node, which acts as a bridge between the roll-up node and the BNB chain. By deploying an OP-node, users can monitor the BNB chain for deposits and receive transactions from the L2 execution engine (OP-BTC). This integration ensures the separation of payment and computation layers, as the roll-up node focuses on handling transactions and maintaining the state. In contrast, the OP node manages the reception and transmission of payment-related information.

## **Market Analysis**

The solution offered by Zenith Ledgers addresses an enormous market opportunity. The traditional payment systems market is significant, and the project's scalability and efficiency make it a compelling alternative to incumbent competitors. By leveraging roll-up technology and the security of the BNB chain, Zenith Ledgers can offer a more efficient and cost-effective payment infrastructure.

## **Project Plan**

The project's plan involves developing and deploying the token-specific app chain or roll app using Rootstock, Bitcoin's execution client, a sequencer, and the BNB rollup chain. The team will refine the technical implementation, ensuring scalability and security. Market adoption will be a key focus, with efforts to onboard users and businesses onto the platform. Ongoing maintenance and updates will be carried out to ensure optimal performance and address any emerging needs.

## **Team & Resources**

The Zenith Ledgers team comprises experienced professionals with blockchain technology and payments infrastructure expertise. The team has a strong understanding of the market and the technical aspects required for successful implementation. The project will require appropriate resources, including development tools, infrastructure, and partnerships with relevant stakeholders.

## **Conclusion**

Zenith Ledgers' solution has the potential to transform the payment infrastructure by leveraging roll-up technology to separate payments from on-chain computations. The innovative approach, scalability, and potential impact make it an attractive proposition for addressing the challenges faced by traditional payment systems. With a well-defined project plan and a capable team, Zenith Ledgers is poised to significantly contribute to the tech ecosystem.