Litong Blockchain (LTNG-25): A Scalable Blockchain for Peer-to-Peer Finance and Governance

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Abstract

The Litong Blockchain, LTNG-25, represents a new paradigm in blockchain architecture, integrating a dual-token system with a hybrid consensus mechanism to achieve both high throughput and economic clarity. The network utilises two native tokens: Part A, known as litong-gold, embodies scarcity, governance rights, and staking power, while Part B, known as litong, functions as a utility token supporting transaction fees, minting, liquidity pools, and network incentives. These tokens are linked through a fixed 1:10 swap ratio, which establishes a clear economic hierarchy between governance and utility functions. LTNG-25 combines the security of Proof-of-Stake with the temporal efficiency of Proof-of-History, providing a deterministic yet flexible mechanism for block validation, reward allocation, and validator rotation. Through this architecture, LTNG-25 aims to achieve a scalable, secure, and self-sustaining ecosystem that supports both peer-to-peer finance and decentralised governance.

Introduction

Traditional blockchain networks often suffer from limitations related to scalability, token functionality, and the management of validator incentives. LTNG-25 addresses these challenges by combining a hybrid Proof-of-Stake and Proof-of-History protocol with a dual-token economic model. Part A serves as the scarce governance token, conferring voting power and staking eligibility, whereas Part B serves as a utility token, facilitating transactions, minting of digital assets such as NFTs and meme coins, and participation in reward mechanisms. By separating governance and utility, LTNG-25 ensures that scarcity is preserved and economic incentives remain robust without compromising network security or decentralisation. This architecture

allows validators to participate in block creation through staked Part A or Part B, with performance-based rewards that encourage long-term commitment, uptime, and network reliability.

The network employs a command-line interface (CLI) to execute deterministic transactions, including staking, swapping, minting, and governance voting. This provides a transparent and auditable record of all user actions while giving participants precise control over their tokens and rewards. By integrating a dual-token structure, hybrid consensus, and a deterministic operational model, LTNG-25 sets a foundation for both scalable financial applications and participatory governance mechanisms.

Blockchain Mechanics

LTNG-25 relies on a hybrid consensus model that combines Proof-of-Stake and Proof-of-History. Blocks are generated at regular intervals of five seconds, with each block hash computed using double SHA-256 to ensure cryptographic integrity and prevent tampering. Validator selection is both randomised and performance-driven. Validators may participate with a minimum of 32 Part A or 64 Part B, with Part B-only stakers accumulating Part A over time until they reach the threshold required for dual staking. Validators are rewarded according to a tiered system: early validators receive fixed rewards, top performers receive dynamically adjusted rewards based on validation efficiency, and non-performing validators receive minimal rewards subject to annual decay. Validator rotation ensures network equilibrium, with 50 validators rotated per ten blocks if the total number is below 1,000, and 50 per block if the number exceeds 1,000. This rotation system balances decentralisation with operational efficiency.

Block rewards are carefully allocated to maintain economic sustainability. Part B is minted at twenty per block, with twenty per cent burnt to control inflation, thirty per cent allocated to validators proportionally to performance, and fifty per cent directed to liquidity and reward pools. Part A is minted at five per block and entirely allocated to reward pools. These mechanisms reinforce the scarcity of Part A while ensuring sufficient utility supply for Part B to support network operations.

Token Mechanics and Swap

Part A, or litong-gold, is a fixed-supply token, scarce by design, representing governance authority, staking rights, and voting power. Part B, or litong, is dynamically minted, utility-focused, and integral to transaction processing, minting fees, and reward distribution. Users may swap Part A for Part B at a fixed 1:10 ratio, ensuring that Part A retains economic dominance. Reverse swaps are disabled by default, reinforcing the scarcity and strategic value of Part A within the ecosystem. Part B serves as the operational lifeblood of the network,

facilitating daily transactions, minting operations, and participation in liquidity pools. Normal users acquire Part A through peer-to-peer transfers, swaps from Part B, or by performing economic activities such as selling NFTs or meme coins, whereas Part B can be freely transferred, purchased, or acquired from network activities.

This dual-token model provides an elegant separation of economic roles, ensuring that governance is secure and scarce while utility tokens remain abundant enough to sustain network activity. The fixed swap ratio also enables predictable economic planning, with Part A serving as a long-term store of value and Part B enabling operational flexibility for network participants.

NFTs and Meme Coins

LTNG-25 supports the minting of NFTs and meme coins to enrich the ecosystem and provide tangible use cases for Part B. NFTs may be minted at a cost of 0.1 Part B, and meme coins at 0.2 Part B plus optional feature costs. A transaction fee of two per cent is applied to all minting, with twenty per cent burnt and eighty per cent directed to liquidity and reward pools. These digital assets cannot participate in staking or block validation, ensuring that staking remains the exclusive domain of Part A and Part B. NFTs and meme coins are swappable only for Part B, maintaining their utility without affecting the scarcity or governance properties of Part A. This design ensures that creative and economic activities are monetarily productive while preserving the integrity of the network's core token economics.

Wallets, Security, and Testnets

Wallets are created with strict anti-abuse mechanisms, including CAPTCHA verification and rate-limiting to prevent automated account creation. The creator wallet is unique within the network and may be destroyed irreversibly to relinquish control. Testnet and devnet wallets allow users to receive token airdrops without financial risk, providing an environment for experimentation and validation of network mechanics. Wallet destruction is irreversible and requires that all assets be transferred beforehand, ensuring no loss of value and preventing malicious or accidental control over the network's genesis assets. These mechanisms ensure both security and accessibility for users and developers while maintaining the integrity and decentralisation of the network.

Command-Line Interface

All interactions with LTNG-25 are mediated through a command-line interface, which provides users with full operational control. Commands include wallet creation and destruction, staking of Part A or B, claiming rewards, minting NFTs or meme coins, executing swaps, voting on governance proposals, and receiving airdrops. Each command produces deterministic

outcomes with explicit feedback to the user, allowing reproducibility and auditability of all actions. This CLI approach reflects the Nakamoto philosophy of transparent, peer-to-peer financial systems, while providing modern utility and accessibility for validators and regular users alike.

Governance

Governance is conducted through Part A holdings, with voting power proportional to token balance. Protocol modifications, such as adjustments to swap permissions or reward allocations, require a majority vote. Validators are prohibited from voting on proposals that directly affect their rewards, ensuring impartiality and decentralisation. By linking governance authority to scarce tokens, LTNG-25 maintains a balance between participation incentives and network security, enabling collective decision-making while preventing centralisation or conflicts of interest.

Oracle Integration

LTNG-25 integrates both on-chain and off-chain oracles to provide real-time data for dynamic fee adjustments, token pricing, and network parameter optimisation. Oracle interactions are paid in Part B and capped at five per cent of transaction fees, with accurate reporting incentivised to maintain reliability. By utilising external data feeds alongside on-chain computation, the network ensures economic actions reflect real-world conditions while maintaining immutability and transparency within the blockchain.

Economic Model

The network’s economic model differentiates scarcity and utility. Part A maintains its value and scarcity, only obtainable through peer-to-peer transfer, swaps from Part B, or network-mediated economic activity. Part B is utilised for transactional purposes, minting fees, liquidity provisioning, and validator incentives. Staking rewards, NFT and meme coin creation, and liquidity pools are tightly coupled with Part B, ensuring systemic balance and sustainability. By clearly separating governance and operational utility, LTNG-25 provides both predictable long-term value storage and flexible network operations.

Acknowledgements and References

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Buterin and the Ethereum Foundation for smart contract and token standard innovations. These contributions underpin the hybrid consensus, token mechanics, and governance design implemented in LTNG-25, allowing the system to combine performance, decentralisation, and economic clarity.

Conclusion

LTNG-25 is a dual-token blockchain integrating hybrid consensus, scarce governance tokens, utility-driven rewards, dynamic validator rotation, and a fully deterministic command-line interface. It supports NFT and meme coin ecosystems while enforcing strict token flow rules and economic separation. By combining these mechanisms, LTNG-25 achieves scalability, decentralisation, and sustainable economic incentives, offering a practical foundation for peer-to-peer finance, governance, and programmable digital asset interactions. Its architecture ensures both operational flexibility and long-term value preservation, reflecting the principles of security, transparency, and deterministic design established by early innovators in blockchain technology.