Validators DAO: Building an Efficient Incentive Loop for the Solana Ecosystem

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Abstract. Validators DAO aims to enhance decentralization, security, and efficiency of the Solana network by creating sustainable incentives. By addressing key issues such as validator reduction, stake concentration, and inefficient network resource utilization, Validators DAO has developed and combined SLV (an open-source validator management tool), Validators Solutions (for automated operations), the liquid staking token (LST) elSOL, and ERPC's Stake Bandwidth Market to comprehensively address these challenges.

The SLV open-source community acts as a collective knowledge base, enabling newcomers to establish high-quality nodes easily. Validators Solutions automates operations and optimizes resources, reducing barriers for validator entry while improving overall network quality. Additionally, elSOL provides users liquidity and staking rewards simultaneously, offering extra revenue opportunities through VLD token mining and bandwidth rentals on ERPC.

Traders and projects benefit from staking bandwidth via ERPC, applying stake connections (QoS) to their private RPC nodes, ensuring faster and more reliable transactions. Increased bandwidth utilization directly boosts incentives for stakers and validators, creating a positive feedback loop. This holistic platform incentivizes individual participation to strengthen Solana's security, performance, and decentralization continuously.

Validators DAO empowers participants to voluntarily engage and benefit individually, thus collectively enhancing the Solana network. We envision expanding this efficient incentive loop, driving sustained growth of the Solana ecosystem.

Background and Challenges

Validator Reduction and Stake Centralization

Despite its rapid growth due to high throughput and scalability, Solana faces decreasing validator numbers and stake centralization among large validators. This concentration threatens the inherent decentralization and security provided by Proof of Stake. Particularly, a declining or static Superminority can make the network more vulnerable to outages and raises barriers for new validator entry, forming a negative cycle.

Inefficient Network Utilization

While Solana supports prioritized transactions through Stake-weighted QoS, practical implementations remain inefficient. Projects and traders running private RPC nodes often encounter transaction limits due to insufficient stakes. Some validators individually "lend" stakes, but the lack of a structured marketplace results in significant unused bandwidth. Consequently, network efficiency remains below its full potential.

Operational Costs and Barriers for Smaller Validators

Validator operations require 24/7 uptime, frequent updates, substantial server costs, and extensive marketing to attract stakes. Small-to-medium validators frequently struggle with financial viability, resulting in higher dropout rates. Such conditions exacerbate centralization risks, compromising network decentralization and security.

Importance of Decentralization, Security, and Incentive Design

To genuinely activate the Solana network, expanding validator numbers and decentralization is essential. A well-designed incentive system, including bandwidth rentals (QoS), ensures participants naturally enhance the network by pursuing their own benefits. Validators DAO proposes solutions that leverage automation, resource optimization, liquid staking, and QoS bandwidth utilization to foster a sustainable positive spiral.

Solutions: Validators DAO Initiatives

Simplified Validator/RPC Operations with SLV

Validators DAO utilizes SLV, an open-source validator management toolchain:

- **Collective Open-Source Knowledge**
  Aggregates necessary validator management know-how and procedures for easy participation.

- **Community Contributions**
  Continuously refined software through global validator and developer contributions.

- **Learning and Mutual Support**
  Facilitates high-quality node establishment for new participants, encouraging decentralization.

SLV: https://slv.dev/

Automation and Resource Optimization via Validators Solutions

Validators Automation Service “Validators Solutions” significantly reduces operational burdens:

- **High-performance Infrastructure and Monitoring**
  Optimized global data centers and external monitoring ensure stable validator uptime.

- **Reduced Entry Barriers**
  Simplifies entry for newcomers, improving stake accumulation capabilities.

- **Improved Network Quality**
  High-performance validators globally improve Solana's overall security and performance.

Validators Solutions: https://validators.solutions/

elSOL: Liquid Staking Token, VLD Mining, and QoS Bandwidth Rentals

elSOL is a liquid staking token (LST) leveraging Solana’s official staking pool:

- **Liquidity with Rewards**
  Users earn automatic staking rewards while maintaining liquidity.

- **VLD Mining through DAO Staking**
  Stake elSOL in Validators DAO to mine VLD tokens, converting them to veVLD for validator selection and LP voting.

- **Bandwidth Rentals on ERPC (Stake Bandwidth Market)**
  Stakers rent out QoS bandwidth to traders/projects, earning additional revenue.

elSOL: https://elsol.app/

ERPC（Solana Enhanced RPC）

ERPC facilitates flexible QoS bandwidth rentals:

- **Stake Application for Private RPC Nodes**
  Enables optimal performance by applying necessary stake amounts.

- **Supply and Demand Matching**
  Stakers lease surplus stakes to users, creating mutual economic benefits.

- **Positive Spiral**
  Increased QoS utilization boosts staker revenues, further incentivizing participation and strengthening decentralization.

ERPC: https://erpc.global/

Incentive Design and Governance

VLD/veVLD for Long-term Commitment and Stake Allocation

Staking elSOL in Validators DAO mines VLD tokens, convertible into veVLD:

- **Stake Opportunities for Smaller Validators**
  veVLD voting helps new/small validators acquire stakes in exchange for bandwidth.

- **Liquidity Pool Benefits**
  DeFi pools handling VLD tokens attract increased LP rewards through veVLD support.

- **Vote Escrowed Model Advantages**
  Encourages long-term commitment, prioritizing network contribution over short-term speculation, enhancing security and decentralization.

Benefits for Participants

- **elSOL Stakers**

  ・Earn multiple revenue streams: standard staking rewards, VLD token mining, and QoS bandwidth rental fees.

  ・Obtain veVLD, providing voting rights for validator and liquidity pool selection, enabling active contribution to a healthier ecosystem.

- **Validators**

  ・Revenue from QoS bandwidth rentals and acquiring greater stakes through veVLD voting, thus reducing the risk of operating at a loss.

  ・Leverage automation and optimized infrastructure provided by SLV and Validators Solutions, lowering entry barriers while ensuring stable revenue streams.

- **Traders/Projects**

  ・Flexibly lease QoS bandwidth via ERPC, enabling faster and more reliable transaction execution.

  ・Apply stakes to private RPC nodes, overcoming previous performance restrictions due to zero stake conditions, thus significantly improving operational efficiency.

Positive Feedback Loop of Incentives

The fundamental advantage of Validators DAO's incentive structure lies in enabling all participants to naturally strengthen the entire network by pursuing their individual benefits:

1. elSOL stakers seeking additional rewards stake into Validators DAO → cast votes to support preferred validators and liquidity pools.

2. Validators benefit from increased stakes and improved operational standards → stabilize network conditions and boost participant confidence.

3. Traders and projects actively rent QoS bandwidth → rental fees flow back to elSOL stakers, expanding their incentives further.

4. Growing incentives attract more stakes → increase validator participation and decentralization, thereby enhancing the overall security and resilience of the Solana network.

This design integrates decentralization, enhanced security, and resource efficiency, collectively driving sustainable growth of the Solana ecosystem.

Tokenomics: Design of VLD and veVLD

Overview of VLD Token

Validators DAO issues the VLD as the core incentive for network contributions. VLD can be mined by staking elSOL into Validators DAO and can be further locked for a defined period to convert into veVLD (Vote Escrowed VLD). Holding veVLD enables participants to vote on validator delegation and liquidity pool selection.

Token Allocation and Airdrop

VLD token allocation is structured as follows:

15%: Airdrop

An airdrop will be executed for early contributors to Validators DAO and the broader Solana ecosystem, specifically:

- Open-source contributors to SLV (formerly solv)
- Validators of Validators Solutions
- $elSOL Holders
- $EPCT token holders (excluding core team, DAO wallets and locked tokens)
- Holders of Buidlers Collective NFT
- Holders of Epics Beta Tester Ticket NFT
- Holders of Buidlers Guild Card Pack NFT
- Participants of various snapshot events (announced periodically via Discord)

※ 90% of this airdrop will be distributed directly to recipients, and the remaining 10% will be allocated for initial liquidity provision in liquidity pools.

85%: Linear Vesting over 10 Years

The remaining 85% of VLD tokens will be unlocked linearly over 10 years, rewarding long-term contributors:

- 80%：Mined by elSOL stakers
- 20%：Liquidity pool incentives determined by veVLD voting

veVLD: Voting and Lock-In Incentives

veVLD (Vote Escrowed VLD) is obtained by locking VLD for a specified period and plays a crucial role in the governance of Validators DAO:

- **Voting Rights Based on Lock Duration**
  Longer lock durations yield greater veVLD amounts, resulting in higher voting power. veVLD gradually decreases as the lock period ends but can be renewed through re-locking.

- **Voting Scope**
  ・Delegation of stakes from elSOL pools (prioritizing reliability and decentralization)
  ・Selection of liquidity pools for elSOL and VLD (e.g., Uniswap, Jupiter, Orca)

- **Design Philosophy**
  The vote-escrowed model incentivizes long-term project commitment over short-term speculation, underpinning network stability and health.

Network Value through VLD/veVLD

- **Stake Acquisition Rights for Small-to-Medium Validators**
  veVLD holder votes facilitate stake allocations to new and smaller validators, promoting network decentralization.

- **Support for Liquidity Pool Growth**
  DeFi pools receiving veVLD voting support attract increased capital inflow and TVL growth, contributing to overall ecosystem stability.

- **Incentive Optimization**
  Stakers benefit from a structure aligning VLD mining and veVLD voting, simultaneously maximizing returns and supporting sustainable network participation.

TGE Schedule

The VLD Token Generation Event (TGE) is scheduled for Q4 2025.

Detailed information including mining schedules, distribution frameworks, and snapshot criteria will be published in a forthcoming comprehensive white paper.

Conclusion

Validators DAO addresses fundamental challenges of decentralization, security, and efficiency in the Solana network through its integrated solutions: SLV, Validators Solutions, elSOL, and ERPC.

SLV provides a collective knowledge base for high-quality validator node operations. Validators Solutions automates and optimizes validator infrastructure, enabling stable operations for numerous validators. elSOL allows asset liquidity alongside staking rewards and QoS bandwidth rental income, while ERPC offers a marketplace for high-speed, reliable RPC environments and QoS bandwidth for traders and projects.

By enabling all participants to pursue individual incentives, a positive feedback loop emerges, facilitating network expansion, decentralization, and security enhancement. This interconnected structure embodies the essence of Validators DAO, forming a critical foundation for sustained growth and prosperity of the Solana ecosystem.

Links

elSOL: https://elsol.app/
SLV（Solana Validators/RPC tool）: https://slv.dev/
Validators Solutions（Validators Automation）: https://validators.solutions/
Validators DAO: https://dao.validators.solutions/
ERPC（Solana Enhanced RPC）: https://erpc.global/
Validators DAO Discord: https://discord.gg/C7ZQSrCkYR
Solana Foundation Validator Health Report: March 2023:
https://solana.com/news/validator-health-report-march-2023
Validator Health Report: October 2023: https://solana.com/news/validator-health-report-october-2023
A Guide to Stake-weighted Quality of Service on Solana:
https://solana.com/ja/developers/guides/advanced/stake-weighted-qos
What are veTokens and Understanding veTokenomics:
https://www.coingecko.com/learn/vetokens-and-vetokenomics