SLYVEX WHITEPAPER

1. Introduction

Slyvex Network is a kaspa fork, a next-generation blockchain designed to offer ultra-fast, scalable, and secure transactions through its innovative BlockDAG architecture and the GhostDAG consensus protocol.

Unlike traditional blockchains that rely on a single chain of sequential blocks, Slyvex leverages a Directed Acyclic Graph (DAG) structure, enabling the simultaneous creation and processing of multiple blocks per second. This results in drastically faster confirmation times and a significant increase in network throughput.

Each transaction on the Slyvex Network becomes visible to the network within one second and achieves full confirmation within ten seconds, making it ideal for real-world payments, commerce, and decentralized applications (dApps) requiring high responsiveness.

While many modern networks attempt to solve scalability issues by introducing Proof-of-Stake mechanisms or sacrificing decentralization, Slyvex remains committed to a pure Proof-of-Work (PoW) model using the energy-efficient kHeavyHash algorithm. Combined with the GhostDAG consensus, this ensures that security, decentralization, and performance are all maintained—without compromise.

Slyvex represents a new era in blockchain design: faster than Bitcoin, more scalable than Ethereum, and more decentralized than Proof-of-Stake systems. Whether you're a user, developer, or miner, Slyvex delivers a future-proof foundation for the decentralized world.

2. Limitations of Legacy Blockchains

Scalability and Transaction Speed

Traditional blockchains, such as Bitcoin and Ethereum, are built on a linear structure where blocks are added one after the other, forming a chain. While this model has proven its security, it presents serious challenges in terms of scalability. Transactions must wait in line to be included in a block, and the chain's ability to process transactions is limited by the time it takes to generate and validate each block.

As a result, transaction speeds are relatively slow, with confirmation times ranging from several minutes to several hours, especially when the network is congested. In an era where blockchain usage is growing exponentially, these limitations hinder the widespread adoption of blockchain for everyday transactions. The slow speeds and network congestion in current blockchains represent a major obstacle to the scalability needed to support large-scale commercial applications.

Energy Consumption

Another critical issue with traditional blockchains is their high energy consumption, particularly for those using the Proof-of-Work (PoW) consensus mechanism. In this model, miners must solve complex cryptographic puzzles to validate blocks, a process that requires substantial computational power. As the network becomes more secure, the computational requirements increase, and so does the energy consumed.

Networks like Bitcoin consume vast amounts of electricity, often comparable to that of small countries, raising growing environmental concerns. The energy inefficiency of PoW-based blockchains limits their long-term viability, especially as the global demand for clean and sustainable energy becomes a priority. This excessive energy consumption model is increasingly at odds with the world's push for sustainability and environmental responsibility.

3. The Answer to Legacy Blockchain Limitations

BlockDAG and GhostDAG Consensus

Slyvex Network addresses the limitations of traditional blockchains by utilizing a **BlockDAG** (Directed Acyclic Graph) architecture, which allows multiple blocks to be created simultaneously every second. Unlike linear blockchains, where each block must be added sequentially, the BlockDAG structure enables several blocks to coexist and be integrated into the network in parallel. This significantly increases transaction processing capacity, making the network much faster and capable of handling a high volume of operations without congestion.

The **GhostDAG** (Greedy Heaviest Observed Subtree Directed Acyclic Graph) consensus mechanism is a revolutionary approach that maintains high security while efficiently handling competing blocks. GhostDAG selects the most secure sub-chains and integrates them into the main DAG structure, ensuring that even with multiple blocks being processed, the network’s security and integrity are never compromised. This model provides the robustness of traditional blockchains with vastly improved efficiency and speed.

kHeavyHash

At the core of Slyvex Network's proof-of-work (PoW) system is the kHeavyHash algorithm. This algorithm not only enhances network security against potential attacks, but also optimizes energy efficiency. KheavyHash is designed to deliver high throughput without the exorbitant energy costs associated with traditional PoW algorithms. Furthermore, it is better suited to modern hardware performance, ensuring reduced energy consumption while maintaining maximum security.

Decentralization and Security

One of the key strengths of Slyvex Network is its ability to maintain a high level of security and decentralization without relying on Proof-of-Stake (PoS). Unlike PoS networks, which require capital investment to validate transactions, Slyvex remains fully based on a Proof-of-Work model, ensuring that every participant has an equal role in securing the network, regardless of the number of SVX they hold.

By avoiding PoS, Slyvex ensures that the network’s security and governance remain decentralized and accessible, without concentrating power in the hands of a few SVX holders. This approach eliminates the risks of centralization while offering a highly secure, attack-resistant network.

4. Key Features

BlockDAG Structure

Unlike linear blockchains, Slyvex processes **all blocks in parallel**, linking side chains into a unified DAG structure. This drastically increases the number of blocks generated per second and improves network throughput.

Instant Transaction Confirmation

Each Slyvex transaction is **visible to the network within 1 second** and **fully confirmed in 10 seconds on average**, making it ideal for real-world, everyday use.

Built-in Scalability

With multiple blocks generated and confirmed every second, Slyvex can support massive user growth **without sacrificing decentralization or security**.

Pure PoW + GhostDAG Security

Slyvex is secured by a **pure Proof-of-Work system**—no staking required—combined with **GhostDAG**, which selects and orders blocks based on score without orphaning valid blocks.

5. R&D - EVM Bridge Integration

Interoperability between blockchains is a cornerstone of the decentralized ecosystem. In this context, Slyvex is developing a decentralized bridge to EVM-compatible chains (such as Ethereum and BNB Smart Chain), enabling seamless SVX transfers and access to the broader DeFi landscape.

Objectives

- Allow SVX holders to utilize their SVX in EVM-based protocols (staking, liquidity mining, lending, etc.).
- Enable cross-chain decentralized applications.
- Maintain a lightweight and secure architecture without requiring native smart contracts.

Bridge Architecture

Although Slyvex, as a fork of Kaspa, does not natively support smart contracts or virtual machines, an effective bridge can be implemented using a **relayer-based design with external smart contracts**. The system includes the following components:

1. **Bridge Address on Slyvex**
   A special on-chain address acts as the bridge entry point. When users send SVX to this address, those tokens are considered locked for transfer.
2. **Decentralized Relayer**
   One or more relayers continuously monitor the Slyvex blockchain. Upon detecting a transaction to the bridge address, a proof is generated and transmitted to a smart contract deployed on an EVM-compatible chain.
3. **EVM Smart Contract (wSVX Contract)**
   The smart contract validates the incoming proof and mints **wSVX (Wrapped SVX)** — an ERC-20 token representing the locked SVX. These tokens can be used freely within the EVM ecosystem.

4. **Redemption (Back to Slyvex)**
   To return to the native SVX, users burn their wSVX tokens via the smart contract. This burn event is picked up by the relayer, which then releases the corresponding amount of SVX back on the Slyvex chain.

Process Diagram

[Slyvex]

↳ Lock SVX → Detected by Relayer → Mint wSVX on EVM chain

[EVM]

↳ Burn wSVX → Detected by Relayer → Unlock SVX on Slyvex

Security

The bridge relies on:

- A multi-signature (m-of-n) validator model to prevent single points of failure.
- Independent relayers validating and broadcasting events across chains.
- Additional rate limits and verification layers for enhanced safety.

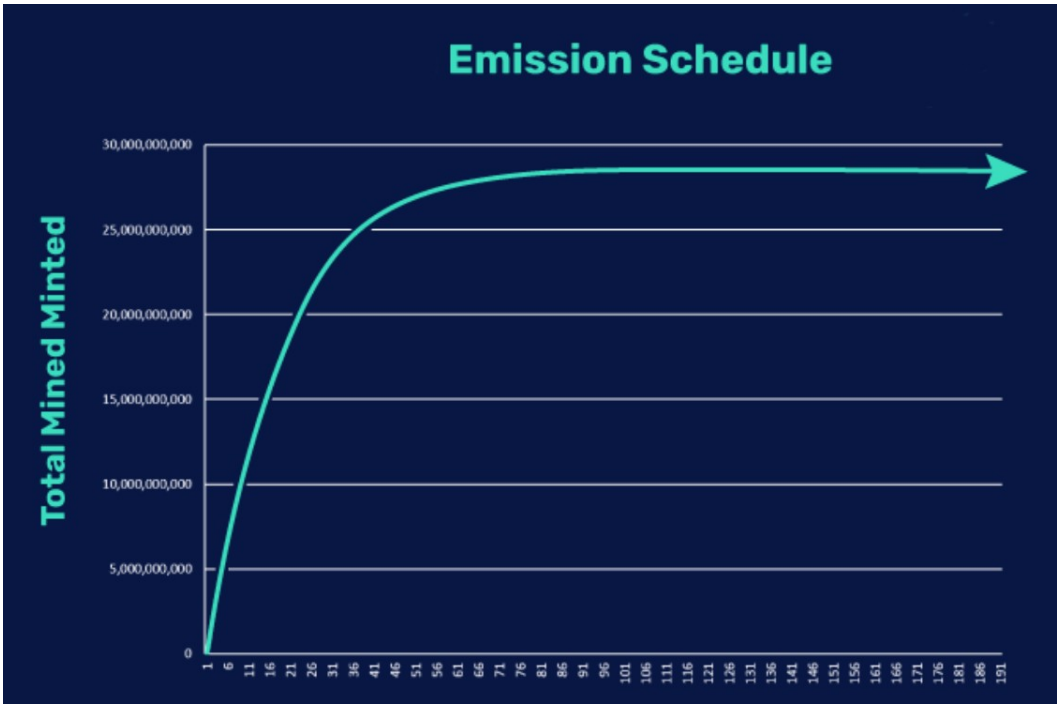
Benefits

- **Seamless interoperability** without modifying the core structure of Slyvex (BlockDAG, GhostDAG, kHeavyHash).
- **Access to DeFi protocols** on Ethereum, BNB Chain, and other EVM networks.
- **No execution overhead** on the Slyvex main chain, preserving its speed and scalability.

5. Tokenomics

Fair-launched in February of 2025 with no pre-mine, zero pre-sales, and no coin allocations, Slyvex is 100% decentralized, open-source, and community-driven. Its monetary policy is designed to ensure long-term sustainability, gradual deflation, and a clear mechanism to fund ongoing development and ecosystem maintenance.

- **Max Supply**: The total supply of SVX is capped at **28.7 billion** coins.
- **Pre-deflationary Phase**:
  For the first six months, each block generates a reward of **500 SVX**. With an average block time of **1 second**, this results in a high-throughput emission model to bootstrap the network and incentivize early miners.
- **Deflationary Phase**:
  After the initial six-month period, the block reward gradually decreases through a **monthly halving schedule**, reducing the reward by a factor of *(1/2)^(1/12)* each month. This smooth reduction avoids sudden drops in miner incentives while enforcing long-term deflation.
- **Development Fee**:
  To ensure sustainable protocol development, **10% of every block reward is allocated to the development fund**. This fee is automatically redirected to a designated address managed transparently by the core team.
  This mechanism guarantees continuous funding for infrastructure, security audits, bridge integrations, and long-term ecosystem growth — all without resorting to pre-mines or SVX pre-sales.



6. RoadMap

Launch Phase

- Mainnet Launch
- Official Website
- Block Explorer
- Web Wallet

Growth Phase

- Discord community
- X community
- Desktop Wallet

R&D Phase

- **EVM Bridge Integration**
  Development of a decentralized bridge to connect Slyvex with EVM-based chains like Ethereum, Binance Smart Chain, or Cosmos, enabling seamless SVX transfers and DeFi interoperability.

7. Conclusion

Slyvex is engineered to overcome the core limitations of traditional blockchain architectures. By leveraging a high-throughput blockDAG structure, the GhostDAG consensus protocol, and a lightweight, energy-efficient Proof-of-Work algorithm, Slyvex redefines what a decentralized network can achieve. Its ability to process multiple blocks in parallel allows for near-instant confirmations, while maintaining a high level of security and resistance to network attacks.

In addition to its technical innovations, Slyvex is designed with interoperability in mind. Through the implementation of a decentralized EVM bridge, users can move SVX between Slyvex and major EVM-based chains seamlessly, ensuring cross-chain liquidity and expanding the reach of SVX beyond the native ecosystem.

Slyvex is not just another blockchain — it is a purpose-built infrastructure for scalable, secure, and interoperable value transfer. Whether used for payments, secure timestamping, or cross-chain bridges, Slyvex offers a streamlined and future-ready foundation for decentralized networks to grow and connect.