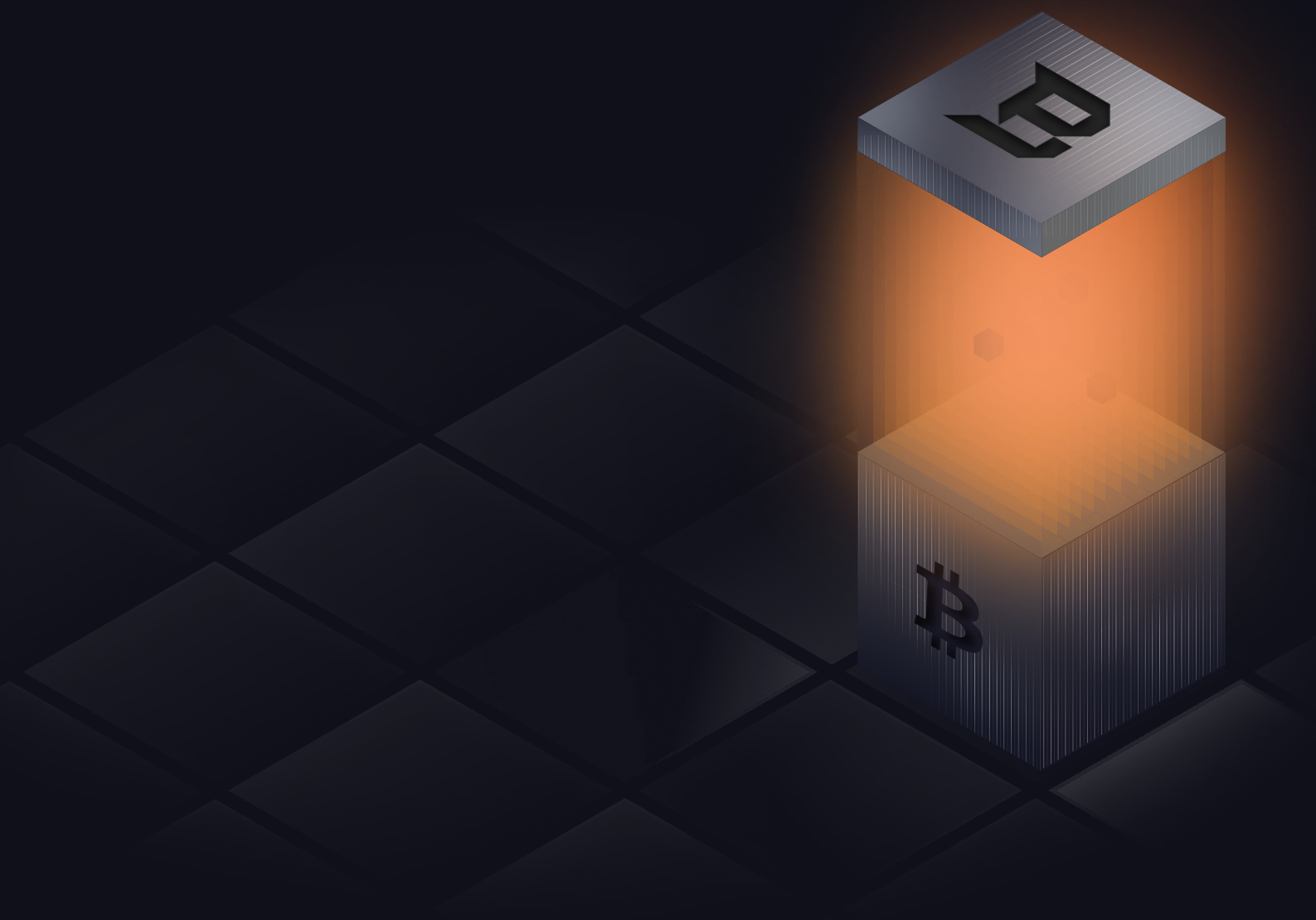
PrimeLayer Litepaper



General Introduction

PrimeLayer is a **zk-rollup Bitcoin Layer 2 (L2)** designed to deliver BTCFi without compromise- combining Bitcoin's unmatched security, Ethereum-grade programmability, and zk-rollup scalability. Unlike existing Bitcoin L2s that force trade-offs between **security and speed,** PrimeLayer offers both: **trustless, lightning-fast confirmations** anchored to Bitcoin's base layer through **merge-mined tags with chainlocks.** Its architecture empowers BTC holders to participate in decentralized finance. Enabling them to **earn sustainable yield without spending their underlying BTC.** While empowering developers to deploy EVM-compatible applications in a Bitcoin-secured environment.

Technical Overview

PrimeLayer's architecture is built on **four core pillars:**

Bitcoin-Anchored Settlement

- Transactions roll up via zk-proofs and periodically settle to Bitcoin using merge-mined tags + chainlocks, ensuring finality and dispute resolution at the L1.

zkEVM Type-4 Execution

- Full bytecode equivalence with Ethereum, supporting standard tooling (MetaMask, Hardhat, Solidity).
- Developers can deploy existing smart contracts seamlessly.

Bonded Validator Network

- Validators stake **$PRML** to secure the rollup, verify proofs, and participate in governance.
- Bonding aligns incentives for long-term network integrity.

Infrastructure-Agnostic Modularity

- Currently leverages Syscoin's AuxPoW, chainlocks, and data-availability layer.
- Can migrate to any equivalent infra while preserving state. Bitcoin remains the ultimate settlement anchor.

Performance Targets:

METRIC	TARGET
TPS	10,000 @ launch → 1M within 3 yrs
Finality	2 seconds
Fees	< $0.0001
Settlement	Bitcoin (merge-mined tags w/ chainlocks)
VM	zkEVM Type-4

Key Features

Secure BTC Bridge

- 1:1 reversible representation of BTC on PrimeLayer, enabling DeFi participation without leaving Bitcoin exposure.

pUSD Stablecoin

- 150% over-collateralized, BTC-backed USD stablecoin.
- Automatic liquidations maintain safety thresholds; every pUSD redeemable against real reserves.

Plug-and-Play EVM Compatibility

- Seamless deployment of Ethereum dApps. Bringing proven DeFi primitives to Bitcoin.

Scalable zk-Rollups

- Trustless proofs, rapid confirmations, negligible fees.

Validator Economics & Yield Model

PrimeLayer introduces a **sustainable yield flywheel** aligning validators, liquidity providers, and BTC holders.

Emission Mechanics

- **100% of $PRML emissions flow** to validators.
- Optional bribes incentivize validators to **redirect a portion** of emissions toward liquidity pools (LPs).
- Validators voting emissions to LPs receive **a share of LP transaction fees,** generating **multiple yield streams.**

BTC Holder Benefit

- Participate in DeFi and earn yield **without spending BTC**—bridged BTC and bonded $PRML remain intact.

Economic Flywheel

1. Validators secure network → receive emissions.
2. Validators direct emissions → LPs.
3. LPs grow → more trading volume → higher fees.
4. Fee share flows back → validators & participants.

Governance & Token Mechanics

$PRML

Utility, gas (<$0.00001), validator bonding, governance.

ve$PRML

Vote-escrowed token granting governance power proportional to bond duration (conceptual stage).

DAO Governance

Community stewards emissions, validator sets, and treasury.

Transition Path

DAO governance → validator-weighted consensus as network decentralizes shortly after mainnet activation.

Competitive Landscape

Performance Targets:

CATEGORY	PRIMELAYER	RSK	STACKS	LIQUID	CITREA
Settlement	Bitcoin (merge-mined + chainlocks)	Merge-mined sidechain	PoX anchor	Federated multisig	Bitcoin (zk-rollup)
VM Type	zkEVM Type-4	EVM variant	Clarity (non-EVM)	Elements	zkEVM
Governance	DAO → Validators	Federation	Nakamoto+ Stacking	Federation	DAO
Scalability	10K → 1M TPS	Limited	Moderate	Limited	TBD
Trust Model	Trustless zk-rollup	Semi-trusted	Anchored	Federated	zk-Rollup
Yield Opportunity	Native DEX Flywheel	External DeFi	Limited	None	TBD
Fees	<$0.00001	>$0.10	Variable	>$0.10	Low
Ecosystem Readiness	EVM-ready	Moderate	Custom tooling	Limited	Early

PrimeLayer uniquely combines **Bitcoin settlement, zk-proof security,** and **native yield,** eliminating compromises faced by current BTC L2s.

Implementation Roadmap

Q4 2025 – Q3 2026

QUARTER	MILESTONES
Q4 2025	Aerodrome TGE launch; community & validator onboarding; testnet v1
Q1 2026	Testnet v2; pUSD MVP; enhanced BTC bridge & tesnet v3; algo stable, full governance and DEX
Q2 2026	Mainnet beta; liquidity programs; governance expansion
Q3 2026	Full mainnet; institutional integrations; modular DA scaling

Team & Vision

PrimeLayer is led by **Dan Wasyluk,** co-founder of Syscoin (2013) and pioneer of utilizing **AuxPoW merge-mining** and **Bitcoin anchoring,** with over a decade of Bitcoin-native development experience.

Advised by **Jag Sidhu,** Syscoin's long-time lead developer and ZK integration expert.

PrimeLayer continues to expand its advisory circle—**engaging long-term industry contributors and thought leaders** through a well-established network—to ensure enduring leadership in BTCFi innovation.