



PBMReserves

DApp Ecosystem and SOV Mainnet Whitepaper

Part One English Edition

From a live DApp ecosystem to next-generation high-performance public infrastructure

Version 0.2 · 2027-2028

This whitepaper explains the two-pillar PBMReserves strategy. The DApp is the current product gateway. SOV Mainnet performance, token economics, and roadmap items are development targets or governance proposals subject to testing, audit, and approval.



NOTICE

Important Notice and Risk Disclosure

PBMReserves DApp and SOV Mainnet are at different stages of maturity. The DApp is the current product and business gateway. SOV Mainnet is the planned second pillar. This paper distinguishes current capabilities, development targets, and governance proposals so that roadmap items are not mistaken for live production features.

Label	Meaning	Validation requirement
Current capability	A capability that exists in product, code, or operations	Confirm through deployment, on-chain records, and audit evidence
Development target	A planned performance or architecture objective	Validate through public testnet, third-party benchmarks, and security audits
Governance proposal	Suggested token, burn, parameter, or ecosystem mechanism	Subject to legal review, community governance, and audited contracts

- This paper is not investment advice, a return guarantee, a securities offering, or a solicitation in any jurisdiction.
- Millisecond-class confirmation refers to a target pre-confirmation experience and is not the same as irreversible finality.
- Near-zero cost refers to a target average fee below USD 0.001. Actual cost depends on network load, asset prices, and governance parameters.
- Funds, signing, bridging, and governance modules should be activated in stages after audits, permission isolation, recovery drills, and regulatory assessment.



EXECUTIVE SUMMARY

Executive Summary

PBMReserves follows a two-pillar strategy. The first pillar is a user-facing DApp ecosystem that connects staking, mining reserves, internal swaps, PGR and SOV claims, deterministic deposit addresses, and asset auditability. The second pillar is SOV Mainnet, intended to provide low-latency, low-cost, EVM-compatible public infrastructure for PBMReserves and a broader Web3 ecosystem.

The core sequence is to validate user needs, asset flows, and security boundaries through the DApp before scaling applications, assets, and developer activity on the public chain.

Pillar	Primary role	Value
PBMReserves DApp	Serve users, validate business flows, and retain on-chain and ledger evidence	Real application demand and continuous product feedback
SOV Mainnet	Provide execution, consensus, data availability, and developer tooling	Lower latency and cost while increasing ecosystem capacity



Pillar One PBMReserves DApp

Product role

The PBMReserves DApp is the first gateway in the two-pillar strategy. It validates identity, assets, rewards, refunds, collection, swaps, and audit workflows while serving real users and supplying operational feedback for SOV Mainnet.

Core modules

Module	User value	Key controls
USDT staking	Deterministic deposit address, confirmed crediting, cancellation, and refund	Confirmations, idempotency, ledger and chain reconciliation
PGR and SOV rights	Reward accounting, claim authorization, and on-chain distribution	Signer permissions, nonce control, claim idempotency
Mining reserves	PGR-based participation and yield records	Thresholds, yield parameters, referral logic, auditability
Internal swap	USDT settlement after verified PGR or SOV payment	Payment hash, treasury liquidity, automatic recovery
Address and collection	A stable deposit address for each wallet	Deterministic derivation, offline recovery, scanning, collection
Administration and audit	Visibility into users, queues, transactions, and exceptions	Authentication, authorization, redaction, traceability



Pillar Two SOV Mainnet

SOV Mainnet targets payments, DeFi, gaming, social applications, and other high-frequency use cases. Its goal is to reduce interaction latency and transaction cost while retaining an EVM-compatible developer experience. It will first support flows validated by PBMReserves, then progressively open to third-party developers.

Development target	Target value	Qualification
Pre-confirmation experience	Millisecond-class	Fast user feedback; not equivalent to finality
Peak throughput	12,000+ TPS	Must be demonstrated on public testnet under standardized workloads
Block time	About 1 second	Initial consensus parameter target
Irreversible finality	About 3 seconds	Depends on validators, network conditions, and consensus proof
Average fee	< USD 0.001	Target varies with load and governance parameters
Developer compatibility	EVM-compatible	Reduces migration cost for contracts, wallets, and tooling

Confirmation and finality are separated. Applications may provide low-latency pre-confirmation first, while consensus establishes irreversible finality later. High-value or high-risk operations should wait for a stronger confirmation level.



Architecture and Security Model

SOV Mainnet uses a modular three-layer design so that execution, consensus, and data availability can evolve independently while remaining connected by explicit interfaces.

Layer	Responsibility	Design direction
Execution	Transaction execution, state change, and contract compatibility	EVM compatibility, parallel processing, real-time settlement
Consensus	Ordering, validation, pre-confirmation, and finality	Enhanced proof of stake, validators, penalties, key rotation
Data	Block data publication, verification, and recovery	Data availability modules, light verification, recovery, archiving

Core security principles

Control domain	Principle	Implementation
Key isolation	Business services do not hold high-privilege keys	Independent signers, HMAC, Service Bindings, bootstrap lock
Asset isolation	Business, gas, collection, and mistaken assets are separated	Dedicated addresses, ledgers, allowlists, and limits
Idempotency	One business event is credited and broadcast only once	Intent, nonce, idempotency keys, unknown-state recovery
Least privilege	Capabilities are enabled only when needed	Sub-switches, circuit breakers, per-transaction and daily limits
Recoverability	Failures neither lose records nor trigger blind resubmission	Task state machines, receipts, restart recovery, reconciliation



TOKENOMICS AND GOVERNANCE PROPOSAL

Token Economics and Governance Proposal

The following parameters are governance proposals. Supply, allocation, vesting, burning, and buyback rules require legal review, community discussion, and contract audit before adoption.

Category	Proposed share	Purpose and constraints
Ecosystem and validator rewards	40%	Validators, developers, ecosystem projects, and user incentives
Early community contributors	20%	Community, testing, content, and operational contributions
Team and early investors	25%	Suggested four-year linear vesting with a cliff
Public and ecosystem cooperation	15%	Public participation, liquidity, and strategic ecosystem partners

Deflation and value return

- The protocol may burn 50% of base transaction fees and use the remainder for validators and network maintenance.
- Validator returns should prioritize a defined incentive pool and real fees, avoiding unconstrained issuance.
- Governance may propose quarterly SOV buybacks and burns using a portion of ecosystem revenue, with an initial reference ratio of 30%.
- Every buyback and burn should disclose on-chain addresses, governance proposals, transaction hashes, and financial records.

Governance path

Stage	Governance model	Safeguards
Launch	Core team and multisig execution	Published permissions, timelocks, limits, and audits
Transition	On-chain proposals and representative governance	Voting thresholds, delegation, veto, emergency committee
Maturity	Community-led parameters and ecosystem treasury	Anti-concentration design, transparent treasury, independent oversight

2027 to 2028 Roadmap

Stage	Primary work	Acceptance output
2027 Q1	Technical specification, consensus prototype, execution and data-layer design	Architecture, prototype code, threat model
2027 Q3	Public testnet, validators, explorer, and developer tooling	Testnet, SDK, RPC, developer documentation
2028 Q1	Security audits, benchmarks, ecosystem applications, migration rehearsals	Audit reports, public metrics, recovery drills
2028 Q3	Genesis configuration, governance, and staged mainnet readiness	Genesis files, permission inventory, release gates

The roadmap may change based on testing, security audits, governance decisions, and regulatory conditions. Safety, verifiability, and recoverability take precedence over a calendar target.

Key validation metrics

Metric	Measurement	Public reporting
Pre-confirmation latency	Transaction receipt to pre-confirmation credential	P50, P95, P99 by region and network
Time to finality	Broadcast to irreversible consensus proof	P50 and P95 including fault scenarios
Throughput	Standard transfers and complex contract workloads	Sustained and peak TPS reported separately
Fees	Average and percentile fee under different loads	Native token and USD equivalent
Reliability	RPC, validator, reorganization, timeout, and failure rates	Monthly SLA, incidents, recovery time



CONCLUSION

Conclusion

PBMReserves does not begin by building a chain without users. It starts with real DApp demand and gradually develops public infrastructure that can support those needs. The first pillar continuously validates users, assets, and business workflows. The second pillar scales that value through performance, cost, security, and developer experience.

Vision: deliver a Web3 experience with millisecond-class feedback, near-zero cost, verifiability, and recoverability.

The next phase focuses on technical specifications, a public testnet, security audits, performance validation, ecosystem partnerships, and governance parameter confirmation.



PBMReserves

DApp 生态与 SOV 公链白皮书

第二部分 中文版

从真实 DApp 生态出发，建设下一代高性能公链基础设施

版本 v0.2 · 2027-2028

本白皮书说明 PBMReserves 双板块战略。DApp 为当前产品入口；SOV Mainnet 的性能、代币经济和路线图属于待测试、审计及治理确认的设计目标或提案。

重要说明与风险披露

PBMReserves DApp 与 SOV Mainnet 处于不同成熟阶段。DApp 是当前产品与业务入口；SOV Mainnet 为计划建设的第二板块。本文明确区分当前能力、设计目标和治理提案，避免把路线图误读为已上线事实。

标签	含义	验证要求
当前能力	已在产品、代码或运营流程中存在的能 力	以实际部署、链上记录和审计结果为准
设计目标	计划通过研发与测试网实现的性能或架 构目标	需公开测试网、第三方压测和安全审计 验证
治理提案	代币分配、销毁、参数及生态激励建议	需法律审查、社区治理与链上合约确认

- 本文不构成投资建议、收益承诺、证券发行文件或任何司法辖区的招揽。
- 毫秒级确认指目标预确认体验，不等同于不可逆最终性。
- 近乎零成本指目标平均交易费用低于 0.001 美元，实际费用取决于网络负载、资产价格和治理参数。
- 资金、签名、跨链、桥接与治理模块应在审计、权限隔离、灾备演练和监管评估后分阶段开放。



EXECUTIVE SUMMARY

执行摘要

PBMReserves 采用双板块战略。第一板块是面向真实用户的 DApp 生态，通过质押、矿储、站内兑换、PGR 和 SOV 权益领取、固定地址入账与资产审计形成产品闭环。第二板块是 SOV Mainnet，目标是为 PBMReserves 及更广泛的 Web3 应用提供低延迟、低成本、EVM 兼容的公共基础设施。

核心路径是先以 DApp 验证用户需求、资产流程与安全边界，再由公链承接更大规模的应用、资产和开发者生态。

板块	主要任务	价值
PBMReserves DApp	服务用户、验证业务、沉淀链上与账本数据	形成真实应用场景与产品反馈
SOV Mainnet	提供执行、共识、数据可用性和开发工具	降低确认延迟与使用成本，扩展生态容量

第一板块 PBMReserves DApp

产品定位

PBMReserves DApp 是双板块战略的第一入口，用于验证账户、资产、奖励、退款、归集、兑换和审计流程。它既服务用户，也为 SOV Mainnet 提供真实业务反馈。

核心模块

模块	用户价值	关键控制
USDT 质押	固定地址入账、确认后记账、取消与退款	确认数、幂等、账本与链上对账
PGR 和 SOV 权益	奖励记账、领取授权与链上发放	签名权限、nonce、领取幂等
矿储	PGR 参与矿储权益与收益记录	门槛、收益参数、团队关系与审计
站内兑换	PGR 或 SOV 付款后获得 USDT 结算	付款哈希、金库流动性、自动恢复
固定地址与归集	每个钱包获得稳定收款地址	确定性派生、离线恢复、扫描与归集
后台与审计	查询用户、资金队列、交易与异常状态	认证、权限、日志脱敏与追溯

业务证据链

步骤	业务事件	保留证据
1	连接钱包并建立身份	钱包地址、网络、会话
2	进入质押、矿储或兑换流程	intent、金额、有效期
3	链上付款或授权	交易哈希、区块、确认数
4	本金、奖励或结算记账	幂等键、账本分录、状态
5	归集、退款或领取	签名请求、nonce、广播与回执

第二板块 SOV Mainnet

SOV Mainnet 面向支付、DeFi、游戏、社交和高频 DApp 场景，目标是在保持 EVM 开发兼容的同时降低交互等待和交易成本。SOV Mainnet 将优先承接 PBMReserves 已经验证的产品流程，并逐步向第三方开发者开放。

设计目标	目标值	说明
预确认体验	毫秒级	用户快速获得反馈，不等同于最终性
峰值吞吐	12.000+ TPS	需在公开测试网和标准化负载下验证
出块时间	约 1 秒	初始共识参数目标
不可逆最终性	约 3 秒	依赖验证节点、网络条件与共识证明
平均费用	< 0.001 美元	目标值，随负载和治理参数变化
开发兼容	EVM 兼容	降低合约、钱包和工具迁移成本

确认与最终性分层：用户可先获得低延迟预确认，网络随后通过共识完成不可逆最终性。大额或高风险操作应等待更高确认级别。



技术架构与安全模型

SOV Mainnet 采用模块化三层设计，使执行、共识和数据可用性可以独立优化，同时通过明确接口保持协同。

层级	职责	设计方向
执行层	交易执行、状态变更、合约兼容	EVM 兼容、并行处理、实时结算
共识层	排序、验证、预确认与最终性	改进型 PoS、验证节点、惩罚与密钥轮换
数据层	区块数据发布、验证与恢复	数据可用性模块、轻节点验证、容灾与归档

核心安全原则

控制域	原则	实施要求
密钥隔离	业务服务不持有高权限私钥	独立 Signer、HMAC、Service Binding 和 Bootstrap 锁定
资产隔离	业务、Gas、归集和误转资产分账	独立地址、台账、白名单和额度
交易幂等	同一事件只记账和广播一次	intent、nonce、幂等键和未知状态恢复
权限最小化	功能按需开启	子开关、熔断、单笔与每日额度
可恢复性	故障不丢账、不盲目重发	任务状态机、回执、重启恢复与对账



SOV 代币经济与治理提案

以下参数属于治理提案。总量、分配、解锁、销毁与回购参数应在法律审查、社区讨论和合约审计后确认。

类别	建议比例	用途与约束
生态发展与节点奖励	40%	验证节点、开发者、生态项目与用户激励
早期社区贡献者	20%	社区建设、测试、内容与运营贡献
团队与早期投资人	25%	建议四年线性解锁并设置悬崖期
公开轮与生态合作	15%	公开参与、流动性和战略合作

通缩与价值回流

- 基础交易手续费的 50%可由协议自动销毁，其余用于验证者与网络维护。
- 节点质押收益优先来自既定激励池与真实手续费，避免无约束增发。
- 可提议每季度以生态收入的一定比例回购并销毁 SOV，建议初始比例为 30%。
- 回购与销毁应公开链上地址、治理提案、执行哈希与财务披露。

治理路径

阶段	治理方式	保护措施
启动期	核心团队与多签执行	公开权限、时间锁、额度和审计
过渡期	链上提案与代表治理并行	投票门槛、委托、否决和紧急委员会
成熟期	社区主导参数与生态资金治理	反垄断投票、透明金库和独立监督

2027 至 2028 路线图

阶段	重点工作	验收输出
2027 Q1	技术规范、共识原型、执行层与数据层设计	架构文档、原型代码、威胁模型
2027 Q3	公开测试网、验证节点、浏览器与开发工具	测试网、SDK、RPC 与开发者文档
2028 Q1	安全审计、性能压测、生态应用和迁移演练	审计报告、公开指标、灾备演练
2028 Q3	创世配置、治理和分阶段主网上线准备	创世文件、权限清单、发布门槛

路线图将根据测试、安全审计、治理决策和监管环境调整。任何阶段都应以安全、可验证和可恢复为优先，不以日期替代质量门槛。

关键验证指标

指标	测量方法	公开标准
预确认延迟	节点接收交易到返回预确认凭证	P50、P95、P99，按地区分组
最终性时间	广播到不可逆共识证明	P50、P95，包含故障场景
吞吐量	标准交易与复杂合约负载	持续 TPS 与峰值 TPS 分别披露
费用	不同负载下平均和分位数费用	原生币与美元等值同时披露
可靠性	RPC、节点、重组、超时和失败率	月度 SLA、事件和恢复时间

结语

PBMReserves 的路线不是先制造一条没有用户的链，而是从真实 DApp 需求出发，逐步建设能够承载这些需求的公共基础设施。第一板块持续验证用户、资产和业务；第二板块以速度、成本、安全和开发者体验放大产品价值。

愿景：让每一个链上用户都能获得毫秒级反馈、近乎零成本、可验证且可恢复的 Web3 体验。

下一阶段重点包括技术规范、公开测试网、安全审计、性能验证、生态伙伴引入与治理参数确认。