StorPunk Whitepaper

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1. Executive Summary

StorPunk is a decentralized storage network focused on: - Privacy through cryptography - Censorship resistance - Individual data sovereignty - Temporary configurable data storage

It is a fork of Autonomi Network to create a complementary additional ecosystem able to tap both the Autonomi network and StorPunk network for permanent and temporary data simultaneously.

By implementing temporary data storage with user-defined expiration, StorPunk advances digital privacy, reduces network vulnerabilities, and creates a voluntary exchange system based on actual market demand rather than artificial incentives.

Key Value Propositions:

- **Privacy by Design**: Temporary storage with configurable retention minimizes surveillance windows and prevents permanent digital footprints.
- **Censorship Resistance**: Decentralized architecture removes central points of control that enable content filtering.
- **Self-Sovereignty**: Users control their data lifecycle through cryptography rather than permission systems.
- **Voluntary Exchange**: Integrated peer-to-peer trading without intermediaries or gatekeepers.

- **Sustainable Economics**: Direct market model based on voluntary transactions without artificial incentives.

Target Market:

- Individuals requiring privacy and freedom from surveillance
- Communities facing information censorship
- Journalists, researchers, and content creators needing censorship-resistant publication
- Developers building applications with ephemeral data requirements
- Participants in voluntary economic exchange without intermediaries

2. Introduction and Vision

2.1 The Problems with Autonomi's vision

Permanent storage systems face structural vulnerabilities including potential cascade collapse if growth slows or costs rise. Additionally, they create persistent data that increases surveillance risk. StorPunk addresses these issues through temporary storage with user-defined expiration, providing a solution that enhances both economic stability and privacy protection.

2.2 StorPunk's alternative Vision

StorPunk implements the cypherpunk vision of privacy through cryptography rather than policy. The system gives individuals complete control over their data lifecycle, ensuring information exists exactly as long as needed and no longer. Governed by a DAO with permanent rights for token holders, the project maintains decentralized control while providing sustainable infrastructure for digital freedom.

2.3 Cypherpunk Principles

Inspired by the Cypherpunk Manifesto, StorPunk implements strong cryptography, privacy, and resistance to centralized control. This creates a network where individuals maintain sovereignty over their data through technical means rather than trusting authorities.

StorPunk prioritizes censorship resistance through architectural design. In an era where governments and corporations increasingly restrict digital information, this approach creates essential infrastructure for unrestricted communication. By distributing data across independent nodes with no central authority, StorPunk ensures information remains accessible regardless of political or corporate censorship attempts. The temporary storage model provides additional privacy benefits by automatically removing data after its useful life, minimizing the window for surveillance or compromise.

3. Technical Architecture

3.1 Network Overview

StorPunk forks Autonomi for core functionality while adding temporary data handling and dual-network support. The network consists of storage nodes, clients, and an integrated exchange layer.

StorPunk's dual-network client allows users to seamlessly access and manage data on both StorPunk (for temporary storage) and Autonomi (for permanent storage) networks from a single interface. This provides free, unified access to both temporary and permanent data types, enhancing usability while leveraging the strengths of each network without additional costs or complexity.

3.2 Temporary Data Model

Users specify retention periods; nodes price based on duration and capacity. Expired data is automatically discarded during rotation cycles, preventing bloat.

3.3 Node Architecture

Nodes handle storage, replication, and exchange functions. Market-based pricing adjusts dynamically based on utilization.

3.4 Native Token Integration

$PUNK (native token) powers network operations including storage fees and transactions. $PUNK-DAO (ERC-20) handles governance via Ethereum.

3.5 Decentralized Exchange Layer

Supports trading of WBTC, USDT, PAXG, ETH, ANT, $PUNK, and $PUNK-DAO. Integrates with MetaMask for secure, low-maintenance operations.

4. Token Economics and Governance

4.1 Market-Driven Pricing Model

Storage Pricing Mechanism: StorPunk adopts Autonomi's proven supply-and-demand pricing mechanism, adapted for temporary data storage:

- **Node-Based Pricing**: Each storage node assesses its internal resource availability to calculate pricing
- **Capacity Assessment**: Nodes compare their current storage load against maximum capacity
- **Supply-Demand Balance**: Pricing reflects the ratio between total available nodes (supply) and total storage requests (demand)

Price Discovery Process: 1. Client queries network for closest nodes to data address 2. Nodes provide storage cost quotes based on their capacity utilization

3. Client selects optimal quote and submits data with payment 4. Node verifies payment, stores data, and replicates to close group

Retention Period Pricing: - **Short-term Storage**: Lower cost multipliers for temporary data - **Extended Retention**: Graduated pricing for longer storage periods - **Market-Responsive**: Pricing adjusts dynamically based on network utilization and retention requirements

4.2 Token Distribution and Supply

$PUNK-DAO Token (ERC-20): - **Total Supply**: Determined by tiered sales - **Distribution Mechanism**: Tiered sales with 1:1 USDT ratio and launch multipliers - Tier 1: 0-250,000 USDT $\to$ 1 USDT = 1 $PUNK-DAO with 16x $PUNK multiplier at launch - Tier 2: 250,001-700,000 USDT $\to$ 1 USDT = 1 $PUNK-DAO with 8x $PUNK multiplier at launch - Tier 3: 700,001-1,350,000 USDT $\to$ 1 USDT = 1 $PUNK-DAO with 4x $PUNK multiplier at launch - Tier 4: 1,350,001-2,350,000+ USDT $\to$ 1 USDT = 1 $PUNK-DAO with 2x $PUNK multiplier at launch - **Unsold Token Allocation**: Unsold tokens from each tier allocated 60% to Founder/Core Developer Pool and 40% to Community Development Fund - **Hold-to-Double Rewards**: Original purchasers who never transferred their $PUNK-DAO tokens receive an additional 2x multiplier on their $PUNK tokens. This doubles the tier multiplier - for example, a Tier 1 buyer (16x) who never transfers their tokens would receive a 32x multiplier (16x $\times$ 2x). - **Soulbound After Claim**: Tokens become non-transferable after claiming, while retaining full governance rights forever on Ethereum

Community Development Fund: - **Allocation**: 40% of all unsold tokens - **Long-term Operation**: Continues for years or decades after main development phases - **Ongoing Governance**: Provides DAO members with an enduring role in ecosystem development - **Purpose**: Fund community-driven development projects - **Eligibility**: Developers must hold minimum 100 $PUNK-DAO tokens - **Governance**: Controlled by DAO votes through Snapshot.org - **Rules**: "One project at a time" to ensure focus and completion

$PUNK Native Token: - **Supply**: Minted via claims from $PUNK-DAO holders - **Utility**: Network fees, storage payments, transactions - **Economics**: Market-driven with no artificial inflation

4.3 Governance Structure

- **Platform**: Snapshot.org for gasless voting (free)
- **Voting Power**: 1 token = 1 vote (pre and post-claim)
- **Multisig**: Time-locked for critical functions
- **Proposals**: Treasury management, tier initiation timing, development priorities (P2P exchange with multisig trade security in Phase 3), emergency actions, network upgrade approvals
- **Permanent Rights**: Soulbound tokens ensure lifelong participation
- **Transition**: Governance remains on Ethereum indefinitely

- **Voting Process**: Connect wallet → Read proposals → Vote for free

5. Risk Factors and Mitigations

5.1 Technical Risks

Network Infrastructure: - Dependency on underlying Autonomi protocol stability and continued development - Potential network splits or consensus failures affecting data availability - Node churn impacting data replication and network performance - Security vulnerabilities in forked codebase requiring ongoing maintenance

Temporary Data Model: - Data expiration mechanisms must function reliably to prevent network bloat - Risk of premature data deletion due to system errors - Complexity of managing configurable retention periods at scale

Token Integration: - Smart contract vulnerabilities in native token implementation - Exchange layer security risks and potential exploitation - Bridge service centralization (mitigated by public verification)

Mitigations: - Comprehensive audits and bug bounties - Phased testnet deployments - Community-driven code reviews - Redundant bridge monitoring

5.2 Economic Risks

Market Dynamics: - Token price volatility affecting network economics and user adoption - Insufficient node operator incentives leading to reduced network capacity - Competition from established storage providers offering similar services

Sustainability Concerns: - Reliance on market-driven pricing may not sustain network operations long-term - Potential misalignment between storage costs and user willingness to pay - Economic model dependency on continuous network growth and adoption

Liquidity Risks: - Limited exchange listings potentially restricting token accessibility - Low trading volume affecting price discovery and user participation - Tiered sale progression timing and potential funding gaps

DAO-Specific Risks: - Low tier participation (mitigated by minimum thresholds and flexible tier timing) - Holder fatigue over extended development periods (mitigated by regular updates and rewards) - Governance centralization (mitigated by time-locked multisig)

Mitigations: - Conservative treasury management with 12-18 month runways - Monthly transparency reports - Hold-to-double incentives for long-term holders - Flexible tier timing

5.3 Competitive Risks

Market Position: - Established permanent storage networks with larger user bases and developer ecosystems - Traditional cloud providers offering competitive pricing and reliability

Mitigations: - Emphasis on dual-network client for ecosystem synergy - Focus on hardcore decentralization, well beyond other offerings

6. Project Phases and Milestones

6.1 Phase 0: Foundation Building (Pre-Funding)

- Website and Forum Development
- DAO Development and Structure
- DAO Launch & Initial Operations
- Estimated Timeline: Q1-Q2 2024

6.2 Phase 1: Core Team Assembly & Initial Development (Tier 1 Funding)

- Team Building (Core Development Team)
- Initial Development (Autonomi Fork, TTL Research)
- Ongoing DAO Governance
- Estimated Timeline: Q3 2024 - Q1 2025

6.3 Phase 2: Full Team & Core Development (Tier 2 Funding)

- Team Expansion (Complete Technical Team)
- Core Network Implementation
- Testing & Security
- Estimated Timeline: Q2 2025 - Q1 2026

6.4 Phase 3: Network Refinement & Launch Preparation (Tier 3 Funding)

- Native P2P Exchange Development (HIGH PRIORITY)
- Network Completion
- Public Testing
- Security & Compliance
- Estimated Timeline: Q2 2026 - Q2 2027

6.5 Phase 4: Network Launch & Ecosystem Development (Tier 4 Funding)

- Network Launch
- Launch Campaign
- Application Layer Development

- Estimated Timeline: Q3 2027 - Q4 2028

7. Glossary

- **Soulbound Token**: Non-transferable token after claiming rewards
- **Hold-to-Double**: 2x $PUNK reward for original holders
- **Tiered Sale**: Structured token distribution with decreasing rates
- **Time-Locked Multisig**: Delayed multi-signature control mechanism
- **Snapshot.org**: Gasless voting platform for DAO proposals
- **TTL**: Time-to-Live, the configurable expiration period for stored data
- **Community Development Fund**: Long-term pool of tokens for funding community developers, operating for years after initial development phases complete, ensuring continued DAO governance

8. Appendix: Legal & Compliance

8.1 Regulatory Considerations

StorPunk complies with relevant securities regulations. Token sales may be restricted in certain jurisdictions.

8.2 Legal Structure

The project operates as a DAO with decentralized governance. Participants agree to terms via smart contract interactions.

8.3 Risk Disclosures

All investments involve risk. StorPunk is not responsible for losses due to market conditions or technical failures.

Important Notes: - No guarantee of project success or token value - Development timelines subject to change - Technical specifications may evolve - Regulatory compliance may require modifications

8.4 Forward-Looking Statements

This whitepaper contains forward-looking statements based on current expectations. Actual results may differ materially.

This whitepaper represents the current vision and plans for StorPunk as of the publication date. All information is subject to change as the project develops and adapts to market conditions and technological advances.

Contact Information: - Public-facing Website: [Coming Soon] - Community: [X/Matrix/Telegram links to be added] - Technical Documentation: [Repository links to be added] - Governance: [DAO platform links to be added]

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