THE NOMOS PROTOCOL

A Cybernetic Social Contract for Economic Motion

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DISCLAIMER

Nomos Protocol is experimental open-source software provided "as is." It makes no representations or warranties of any kind regarding value, security, performance, or regulatory compliance in any jurisdiction. Participation involves significant technical, financial, and legal risk, including total loss of funds. The protocol is not money, a security, an investment contract, or legal tender. Users are solely responsible for determining compliance with all applicable laws. No promises of profit, utility, or adoption are made. Use at your own risk.

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1. Executive Summary

Nomos Protocol is a decentralized economic system designed to solve three persistent failures of legacy monetary and blockchain systems:

1. Wealth stagnation caused by hoarding and passive capital
2. Computational centralization driven by economies of scale
3. Social exclusion from access to productive economic participation

Nomos introduces an Economy of Motion, where currency issuance is tied directly to verified human activity, infrastructure contribution, and transaction velocity. The protocol is self-correcting by design, combining algorithmic incentives with mandatory human mitigation at points of irreversible harm. Nomos is not a stablecoin, not a store-of-value maximizer, and not a replacement for sovereign currency.

For most participants, Nomos functions as a decentralized rewards layer on top of ordinary economic activity: users transact normally and receive protocol rewards for contributing to circulation, infrastructure, and verified human activity. Protocol complexity is intentionally confined to the system layer, while the user experience remains simple, voluntary, and non-punitive. Nomos does not impose fees, interest, forced participation, or irreversible automated penalties.

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2. Core Economic Engine

2.1 The 3-Way Reward Split

Every verified transaction of value v_{tx} mints a reward R, split equally:
- Sender (1/3): Receives a rebate for initiating economic flow
- Receiver (1/3): Receives value plus reward for utility creation
- Node (1/3): Receives compensation for validation and infrastructure

A "verified transaction" is one validated by the node layer, compliant with protocol rules, and not invalidated by anti-manipulation review, it is publicly viewable and only available to wallets with a valid **ZK-Liveness Proof**.

1.X Zero-Knowledge Identity (The "No-Data" Standard) Nomos utilizes **Recursive ZK-SNARKs** to verify unique humanity without creating a central database. The protocol **does not store, retain, or ever view** user biometric data.

- **The Proof:** The user's device generates a cryptographic "Liveness Proof" (a mathematical hash).
- **The Verify:** The network verifies the hash, not the face.
- **The Privacy:** Once the proof is generated, the biometric data is discarded. The protocol cannot comply with data seizures because it holds no data to seize.

This aligns incentives toward circulation rather than extraction.

2.2 Decimal Scarcity Algorithm

To preserve long-term value, rewards decay as the network grows.
Let:
- X = total transaction volume (last 30 days)
- Y = circulating supply
- N = number of decimal digits in (X + Y)

$r_s = 1 / 2^{(N-2)}$

Scarcity increases logarithmically rather than abruptly.

2.3 Elastic Velocity Stimulus

Nomos targets a monthly circulation of the full token supply.
- Target velocity: $V\_T = S$
- Actual velocity: $V\_A = X$

Velocity coefficient:

$C\_V = V\_T / \max(V\_A, \varepsilon)$

Clamped between 0.5 and 2.0 to prevent runaway minting.

The C_V mechanism is subject to systemic guardrails and a 24-hour volatility buffer to ensure stability, the specifications of which are detailed in the Nomos Technical Documentation.

2.4 Complete Minting Formula

$R = v_{tx} \times r_s \times C_V$

Rewards are split equally between sender, receiver, and validating node.

Node Autonomy

Nodes may allocate A% of their rewards to public goods (UBL, reliability pools, etc.).

Tax reduction:

$T\_r = \min(4\%, A/2)$

Governance tax = 10% − T_r

- **UNITT (Unique Network-Initiated Transaction Token)** is the protocol's native reward token, created to keep economic activity moving rather than sitting idle. Unlike traditional currencies or fixed-supply cryptocurrencies, UNITT does not exist in advance and is never mined in bulk. It comes into existence only when a real, verified transaction occurs between reputable participants on the network. Each issuance is initially linked to a cryptographic Intent-Signature validated by the Sentinel, ensuring rewards arise from genuine human commerce rather than automated farming. The total supply is not centrally managed or pre-scheduled; it expands or contracts automatically through the Inverse Velocity Engine as economic activity rises or falls. Once released, UNITT is fully fungible, but the system is deliberately designed so value is earned by participating in circulation—initiating trade, providing utility, or maintaining infrastructure—rather than by hoarding or passive accumulation.

- **UNITT is not a speculative asset, store-of-value token, or gas abstraction; it exists solely to reward verified human economic activity and to keep value in motion within the Nomos Protocol.**

2.5 Anti-Manipulation Layer: Resolution, Agency, and Temporal Control

(Replace existing 2.5 header + opening paragraphs)

When a transaction is flagged by the Nomos Sentinel (the protocol's pattern-recognition layer), the system does **not** penalize the user or alter the underlying transaction. Instead, any *associated mint rewards* are placed into **Protocol Escrow**, while base transaction settlement remains final.

This escrow period is an intentional **monetary and integrity control**, serving three functions:

- Dampening inflationary reflex loops by delaying speculative mint compounding

- Neutralizing reward-farming incentives by removing immediate ROI

- Ensuring no automated system imposes irreversible economic harm

Escrow applies **only to newly minted rewards**, never to user-owned balances or transfers.

Flagged users are always granted agency, review options, and due process.

2.5.3 Resolution Pathways (The Entity's Choice)

(Replace table + surrounding text)

Upon flagging, the user is presented with a **Resolution Choice Menu**, including **non-binding time-to-resolution estimates** for each pathway, based on current queue depth and historical throughput.

Pathway	Eligibility	Mechanism	Economic Outcome	Reputation Impact
Voluntary Forfeiture	All users	User acknowledges synthetic or erroneous activity	Escrowed rewards routed to UBL Pool	Neutral — no strike

AI-Assisted Mitigation	First-time or rare offenders (≤2 flags/year)	Sentinel performs holistic historical analysis	Rewards released or reclaimed	Minor "Yellow Flag"; no suspension
Human / Jury Review	Mandatory for repeat offenders; optional otherwise	Case escalated to UBL Verification Pool or Nomos Jury	Consensus-based resolution	Potential full strike or temporary suspension

No pathway constitutes an admission of guilt. Escalation to human review is always permitted.

2.5.4 AI Mitigation Logic (Probabilistic Settlement)

(Refined for clarity, no functional change)

For AI-Assisted Mitigation, the Sentinel evaluates **intent rather than structure alone**, producing a probabilistic settlement outcome.

The AI analyzes an aggregated **Intent-Signature**, including:

- **Biometric Stability**
  Consistency of the wallet's proof-of-agency over a rolling 180-day window.

- **Social Connectivity**
  Whether the transaction graph reflects natural economic clusters (e.g., recurring merchants, family, social peers) versus disposable or synthetic wallet networks.

- **Entropy Score**
  Statistical variance in timing, sequencing, and amounts, distinguishing human behavior from optimized automation.

Outcomes

- *Release*: Escrowed rewards are returned

- *Reclaim*: Rewards are routed to the protocol treasury

AI mitigation is explicitly **non-punitive** and cannot result in permanent exclusion.

2.8 Anti-Manipulation Layer (Operational Summary)

Automated detection mechanisms—including pair-cap thresholds (>10 transactions/day), reciprocal value flows within 45 days, and closed-loop transaction graphs—trigger **reward escrow**, not transaction reversal.

Flagged rewards are routed to independent, high-reputation third-party reviewers via anonymized "work-captcha" tasks (minimum 3–5 reviewers per case).

Outcomes

- *Valid*: Rewards released

- *Invalid*: Rewards reclaimed to treasury; proportional reputation penalties applied

Appeals escalate to the Nomos Jury under standard mitigation deposit rules.

Temporal escrow functions as both an **anti-inflation control** and an **anti-fraud deterrent**, preserving economic finality while maintaining system integrity.

2.9 Designated Transactions Rule

To qualify for mint rewards (R > 0), a transaction must include a designation

- A smart contract call to a verified protocol contract, or
- A public on-chain description (memo) stating purpose, or
- A governance-approved category code (e.g., commerce, UBL task, governance action).

Undesignated transactions are treated as private (full ZK privacy option) and earn no mint reward (R = 0). This ensures rewards are tied to transparent, verifiable utility and further mitigates synthetic velocity and manipulation.

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3. Infrastructure Layer — The Hydra Network

3.1 Tiered Scaling

- Primary Nodes: Backbone validation, Lex registries
- Edge Wallets: Opt-in devices providing compute/storage

3.2 ZK-Sharding & Reliability

- Zero-knowledge sharded data storage
- Randomized uptime challenges
- Bonuses for success; strikes for failure
- 3 strikes → temporary removal + stake refund

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4. Universal Basic Labor (UBL)

UBL provides a non-extractive on-ramp for low-resource participants.

Mechanism

- Donors fund proof-of-human tasks
- Participants complete verifiable work
- Synthetic transaction mints rewards normally

Outcomes

- Participants earn tokens + reputation
- Nodes validate and earn
- Donors receive rebate

UBL tasks are designed to be economically useful or integrity-preserving, not purely extractive or artificial.

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5. Governance & Justice

5.1 Protocol Treasury

Funds:
- Core development
- UBL seeding

- Reliability bonuses
- Jury marketplace

5.2 Nomos Jury

- High-reputation human jurors
- Economic deposits deter spam
- Verdict redistributes deposits
- Truthful consensus rewarded

Justice restores trust rather than imposing punishment.

5.3 Adaptive Governance

- Reputation-weighted voting with optional token stake
- Quorum + majority + time-lock required
- Governance may adjust parameters but not violate constitutional rights

Constitutional constraints are enforced at the contract layer and cannot be overridden by governance vote.

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6. The Nomos Constitution

Nomos is governed by an immutable constitutional layer guaranteeing:
- Voluntary participation
- Right to exit
- Property sovereignty
- Mandatory human mitigation
- Due process
- Reputation integrity
- Freedom from compelled labor (except where voluntarily elected for reward claiming)

No automated system may impose irreversible harm.

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7. Closing Principle

Nomos is not designed to maximize speculation.
It is designed to:

- keep value moving,
- keep infrastructure distributed,
- and keep humans in the loop where it matters.

Users are not required to understand Sentinel logic, mitigation pathways, or monetary tuning parameters to safely participate. For most users, Nomos operates as a simple principle: *ordinary transactions generate rewards*, subject only to delayed issuance when integrity review is required.

Any mechanism that violates these principles is invalid.