

Netfory — Executive Summary

The First Implementation of Web 4.0

Netfory is not a concept. It is not a roadmap. It is a working, tested, production-ready stack.

The Problem: The Frontend Paradox of Web 3.0

Modern decentralized applications suffer from a fatal architectural contradiction. Smart contracts and tokens reside on decentralized blockchains, but the user interfaces through which humans interact with them are hosted on centralized infrastructure — AWS, Cloudflare, Vercel, Google Cloud. A single court order, a single provider's terms-of-service violation, or a single government firewall can erase any "decentralized" application from the global internet. The frontend is the single point of failure.

Existing peer-to-peer alternatives (IPFS, Tor, I2P, Freenet) do not fully resolve this problem. They lack either the performance, the economic incentives, or the human-readable addressing required for mass adoption. None of these systems close the economic loop required to sustain a permanent, censorship-resistant application layer.

The Solution: Netfory — A Fully Autonomous Web 4.0 Infrastructure

Netfory replaces the centralized hosting stack with a decentralized, content-addressed distribution network powered by the Iroh (QUIC) transport layer and BLAKE3 cryptographic verification. Through a native Proof-of-Utility economic model, network participants (seeders) are directly compensated in STH for providing storage and bandwidth. Developers and users interact through censorship-resistant identities (`u://` and `.sth`) without intermediaries.

To guarantee absolute censorship resistance and eliminate single points of failure, the protocol enforces two core architectural invariants:

- **Trackerless peer discovery via Mainline DHT** — seeders are found directly through the BitTorrent DHT, eliminating the HTTP tracker as a dependency.
- **Resilient, high-speed content distribution via a Multi-Armed Bandit swarm algorithm** — the client intelligently selects the fastest seeders and remembers reliable nodes across sessions.

A critical correction to the prevailing narrative must be stated explicitly: the network is not managed by agents. The network IS the agents. Every user's client is itself an autonomous node that discovers peers, verifies content, negotiates routes, and sustains the economy. The user's device is the agent.

The Four Formulas of Web 4.0

Netfory is built upon four foundational formulas that define the Web 4.0 paradigm. These are not marketing slogans; they are architectural invariants enforced by the protocol:

1. **Protocol Stack Replaces API.** Access is a matter of connecting to a protocol (`sn://`, `u://`, `sth://`,

`dev://`), not having permission on a server. No server can deny access. No API key can be revoked. The protocol is the law.

2. **State-First Distribution.** State exists distributed in the network. The user does not "download" a page; they synchronize state via P2P. There is no single source of truth — the truth is distributed.
3. **Zero-Infra.** No AWS, no Google Cloud, no Vercel. All backend logic — databases, APIs, load balancers — migrates to the P2P protocol layer. No corporation can deplatform an application. No government can seize a server.
4. **Content-Addressability Everywhere.** Everything is bound to a Content Identifier (CID), computed via BLAKE3. Content proves itself. No domain can be seized. No certificate can be revoked. Content is immortal.

The Economics: Money as Anti-Spam and Motivation

The native token STH (SmartHoldem) is integrated directly into the protocol as both fuel and anti-spam shield. Every action that consumes network resources costs a small amount of STH. This makes spam economically devastating for attackers while simultaneously creating a perpetual revenue stream for honest participants.

Anti-Spam Economic Proof:

$$C_{spam}^{Netfory} = N \times msg_cost_sth$$

For $N = 1\{,}000\{,}000$ messages at $\$0.01$ STH each, the attacker burns $\$10\{,}000$ STH — a provably irrational expenditure. The attack is economically devastating before a single message is delivered.

Seeder Income Formula (Proof-of-Utility):

$$Estimated = (Base + seededGb \times density + activeApps \times PerApp) \times K_{up}$$

Numerical example: A seeder with `Base = 5`, `seededGb = 100`, `density = 0.5`, `activeApps = 10`, `PerApp = 0.2`, `K_up = 1.0`:

$$Estimated = (5 + 100 \times 0.5 + 10 \times 0.2) \times 1.0 = 57 \text{ STH/day} = 20,805 \text{ STH/year}$$

Money flows directly from users to creators of value — authors, developers, seeders. There is no platform tax. There is no centralized intermediary. The economy is a perpetual, self-sustaining loop.

Token Velocity & Deflation Mechanisms

The economic design of Netfory ensures that STH is not a speculative asset detached from utility. Every protocol-level action either burns, locks, or recycles STH, creating sustained deflationary pressure directly proportional to network usage:

Mechanism	Effect on STH Supply	Status
Registration of <code>u://</code> identity (1 STH)	Burn — permanently removed from circulation	 Live

Mechanism	Effect on STH Supply	Status
Registration of <code><name>.sth</code> domain	Burn — fee scaled by name length and demand	 Live
Publication of dApp (~100 STH)	Lock — transferred to Global Seeding Pool	 Live
dApp manifest update (1 STH)	Burn — prevents frivolous updates	 Live
Paid messages (<code>msg_cost_sth</code>)	P2P transfer — recipient monetization, small network fee burned	 Live
Paid subscriptions (<code>sub:<user></code>)	P2P transfer — creator monetization, small network fee burned	 Live
Boost-Pool contributions (<code>sth_boost:<app_id></code>)	Lock — staked for seeder incentives, recycled via rewards	 Live
DPoS block emission halt (Update 2.0)	Hard cap — inflationary supply permanently stopped at ~249.7M STH	 Live

Key properties:

- **No inflationary escape valve.** With block emission permanently halted, the only way new STH enters circulation is through the existing supply being unlocked from pools — and this is always offset by new burns from registrations and publications.
- **Utility-driven demand.** Every active user, developer, and seeder creates organic demand for STH. The token is not a governance token or a speculative asset; it is the physical fuel of a decentralized infrastructure.
- **Deflationary feedback loop.** As the network grows → more dApps are published → more names are registered → more STH is burned/locked → supply decreases → scarcity increases → utility-backed value rises.

Deflationary by Design

The native \$STH token is not a speculative asset; it is the deflationary fuel of the Web 4.0 infrastructure. With block emission completely halted since Update 2.0, \$STH derives its value from real-world utility: anti-spam fees, name registrations, and direct rewards for seeder operators.

Initial distribution (2017): 240M STH genesis, 83% to ICO participants via BitcoinTalk escrows, 0% team pre-mine.

Current supply: 249.6M STH total, 92K STH permanently burned.

As network usage grows, liquidity is locked or burned, creating sustained deflationary pressure. (For detailed token distribution and mechanics, see the full Whitepaper).

The Proof: This Is Not a Concept

Netfory is not a theoretical roadmap, a conceptual whitepaper awaiting implementation, or a speculative token launch. It is a working, tested, production-ready stack:

- **Tauri v2 Desktop Client** (Rust + Vue 3) — cryptocurrency wallet, decentralized store gateway, dApp execution environment, hybrid seeder
- **Headless Rust Seeder** — autonomous node for VPS/dedicated hardware, 24/7 blob redistribution
- **Lightweight sled-based Tracker** — HTTP coordinator, uptime accounting, bootstrap acceleration
- **git-remote-dev Helper** — decentralized source code distribution via Mainline DHT
- **SmartHoldem DPoS Blockchain** — trust anchor for identity, naming, and economics
- **Proof-of-Storage Verification** — Merkle spot-checking + PoRep, verified in <1 microsecond
- **Trackerless Discovery** — Mainline DHT (BEP5) integration with signed identity-beacon for trackerless peer resolution
- **Swarm Loading** — Multi-Armed Bandit (ϵ -greedy) algorithm with EWMA for intelligent seeder selection
- **Neural Translation Layer** — Local INT8/INT4 quantized model for offline, privacy-preserving cross-lingual content rendering

The mathematics of BLAKE3, secp256k1, and QUIC are not proposals; they are the active, verifiable mechanics of the network.

Roadmap & Next Milestones

Netfory is not a theoretical roadmap. It is a working, tested, production-ready stack. However, the evolution of the symbiotic web is continuous. The following phases outline the strategic trajectory of the protocol, grounded in shipped code and measurable deliverables:

Phase 1 — Foundation (Shipped, 2026)

The core infrastructure is live and operational:

- Core P2P Stack (Iroh QUIC + STUN/TURN/DERP + mDNS + n1-relay)
- Content Addressing (BLAKE3 hash trees)
- Identity & Naming (SDI + BIP-39/32/44 + on-chain registration)
- SmartNet App SDK (window.smartholdem bridge)
- DevHub & Git Remote Helper (git-remote-dev + IDE integration)
- Swarm Loading (Multi-Armed Bandit + 3D Network Map)
- Trackerless Discovery (Mainline DHT + identity-beacon)
- Proof-of-Utility Economics (signed heartbeats + sliding window + Boost-Pool)
- Proof-of-Storage (Merkle spot-checking + PoRep)
- E2EE Messaging (X25519 + AES-256-GCM)
- Neural Translation Layer (INT8/INT4 quantized model)

Phase 2 — Expansion (Q4 2026 — Q1 2027)

The next phase focuses on deepening the economic loop and improving distribution efficiency:

- Full HashSeq Per-File Distribution (iroh collections for chunk-level parallelism)
- Secondary Marketplace for `.sth` Domains (on-chain auctions + P2P trading)
- On-Chain Verifiable Receipts (cryptographic proof-of-payment)
- Availability Staking (seeders stake STH as collateral for uptime guarantees)
- Proof-of-Storage Slashing (staked collateral destroyed for invalid proofs)
- I2P / Tor Routing Integration (optional hidden-network routing)
- Mobile Client (Alpha) — Tauri v2 port to iOS and Android

Phase 3 — Sovereignty (2027+)

The long-term vision focuses on cross-chain interoperability, decentralized reputation, and the evolution of the network into a global infrastructure layer:

- **Decentralized Identity Reputation Scoring.** On-chain reputation derived from seeder uptime, dApp quality, and community contributions — enabling trustless peer selection without centralized rating agencies.
- **Cross-Chain Bridges.** Native bridges to BSC, Ethereum, and Solana, enabling STH to flow across ecosystems while preserving the SmartHoldem DPoS as the trust anchor for Netfory.
- **Decentralized Data Center (DePIN).** As the network scales, everyday users can monetize their idle storage and bandwidth by renting it directly to corporations and enterprises. Netfory transforms into a global, censorship-resistant alternative to traditional cloud providers (AWS/Cloudflare), with all B2B resource settlements executed in \$STH.
- **Advanced Traffic Anonymization.** Research and integration of routing support through hidden networks (I2P / Tor layers) to ensure absolute network confidentiality for nodes, building upon the existing decentralized DERP relay mesh.
- **Governance Layer.** On-chain voting for protocol upgrades, blacklist decisions, and economic parameter adjustments — executed by STH holders with reputation-weighted voting power.
- **Local-First AI Primitives.** Expansion of the existing native neural layer (currently INT8/INT4 translation) into additional on-device AI capabilities: content classification, spam detection, smart routing heuristics, and autonomous seeder reputation scoring — all running locally without cloud dependencies, preserving the "zero-trust, zero-cloud" architecture.

The Era of Renting Access to the Internet Is Ending

Netfory provides the infrastructure for an internet that is owned, operated, and sustained by its users. We have built the transport layer of the symbiotic web.

The network is live. The roadmap is being built.

Learn More

- **Full Whitepaper:** [Read the complete technical documentation](#)
- **GitHub:** [Source code and documentation](#)
- **Telegram:** [Join the community](#)
- **Twitter/X:** [@smartholdem](#) [@thenetfory](#)

Netfory: The Web That Works For You.