aergo | HPP

House Party Protocol(HPP) Whitepaper

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1. Introduction

Aergo is taking a major leap forward. Through a strategic integration with Alpha Quark (AQT), W3DB(VaaSBlock), and Booost, Aergo is launching the House Party Protocol (HPP), a unified, AI-first data and blockchain ecosystem. HPP is designed to bridge enterprise-grade systems with decentralized technologies, enabling a scalable, modular, and transparent infrastructure for real-world AI and Web3 applications.

HPP is not just a technical evolution. It is a systemic shift aimed at addressing the most persistent bottlenecks in data, trust, and AI scalability. By integrating multi-domain expertise across enterprise blockchain, human data verification, synthetic dataset

generation, and AI model validation, HPP is creating a high-trust environment that empowers both institutional and decentralized actors to co-exist and collaborate.

This white paper outlines the technological foundation, economic design, tokenomics, and practical business models of the HPP ecosystem, providing a comprehensive vision for the future of AI-powered blockchain infrastructure.

2. Vision

HPP envisions a future where trusted data and decentralized AI serve as the foundational infrastructure of digital economies. At its core, HPP is designed to:

- Intelligently bridge on-chain and off-chain environments through a powerful AI Oracle layer, grounded in verifiable data and auditable AI;
- Enable practical, real-world use cases such as asset valuation, risk modeling, and autonomous decision-making across finance, identity, and beyond;
- Build a next-generation AI-Native Bridge Layer, connecting diverse blockchain networks while embedding AI as a core layer for trust, optimization, and autonomy

As we move toward a future defined by autonomous systems, decentralized governance, and real-time data interoperability, HPP will serve as the infrastructure layer where:

- Data is machine-readable and independently verifiable;
- AI logic is transparent, auditable, and explainable;
- Trust in computational outcomes is enforced by code, not by intermediaries

This full-cycle platform will support the generation, validation, and deployment of high-quality data and AI services, empowering the next generation of decentralized applications and digital economies. Building on Arbitrum, HPP will gradually integrate AI-based features such as enhanced security and route optimization, reinforcing the network's intelligence and resilience over time.

3. Market Challenges

Despite rapid progress, the intersection of AI and Web3 still faces serious roadblocks from fragmented data infrastructure to a lack of auditability and enterprise-grade trust. HPP is built to directly address these challenges.

Data Fragmentation

- Decentralized AI lacks access to verifiable, on-chain data.
- Fragmented pipelines hinder end-to-end AI training and inference.
- Lack of standardization in how data is sourced, labeled, and validated impedes cross-platform AI deployment.

Scalability Constraints

- Blockchains are not optimized for compute-heavy AI inference.
- Cost and latency bottlenecks make real-time AI infeasible on-chain.
- Most blockchains are not designed for AI-native operations, creating reliance on external, centralized infrastructure.

AI Transparency

- AI models are typically opaque, with unverifiable datasets.
- There is no native infrastructure for auditing AI processes.
- Key governance issues remain unresolved, including ethical AI usage, traceability of data provenance, and explainability of outcomes.

Enterprise–Web3 Divide

- Enterprises require compliant and robust systems.
- Integration hurdles, including regulatory compliance, data governance, and security protocols, limit interoperability between enterprise systems and open Web3 protocols.

With these pillars, HPP transforms today's limitations into tomorrow's infrastructure, enabling a future where AI and Web3 are not just connected but intelligently integrated.

4. HPP: Unified Ecosystem

HPP is the foundation for a unified, end-to-end infrastructure that supports the generation, validation, and deployment of high-quality data and AI services across blockchains. It is not just a protocol. It is the connective layer between AI-native applications and decentralized ecosystems, designed to meet the evolving demands of the digital economy.

As blockchain networks evolve toward a multi-chain future, HPP positions itself as the AI-Native Bridge Layer, integrating both enterprise stability and Web3 scalability. This architecture will operate across Aergo L1, Ethereum, and Ethereum Layer 2, ensuring interoperability, performance, and compliance.

AI-Native Services: Noösphere and ArenAI

Noösphere: The Verifiable Intelligence Layer for Web3

Noösphere is HPP's off-chain intelligence framework, designed to bridge deterministic blockchain environments with dynamic, real-world computations. It enables smart contracts to request and verify complex off-chain tasks such as AI model inference, risk modeling, and multi-source data aggregation without sacrificing decentralization or trust.

Noösphere enables verifiable off-chain computing through decentralized agents. These agents operate under smart contract-coordinated logic, ensuring that the results of off-chain tasks can be cryptographically verified and trustlessly integrated into on-chain applications.

Key Capabilities

- Request off-chain AI inference, risk scoring, and simulation tasks directly from smart contracts.
- Retrieve responses through verifiable pathways and integrate outputs into EVM-compatible environments.
- Deploy intelligent agents with programmable logic, privacy-preserving execution, and transparent auditing.
- Leverage a unified stack combining oracle feeds, decentralized compute, and semantic data coordination.

Noösphere transforms static smart contracts into intelligent, adaptive systems, enabling them to respond to real-time inputs, perform context-aware computation, and integrate AI-driven analysis. Acting as the connective layer between on-chain integrity and off-chain intelligence, Noösphere powers a wide range of next-generation applications, including:

- Autonomous DeFAI Agents (via ArenAI)
- DeSci Protocols for scientific computation
- RWA Intelligence for valuation and risk scoring

- Inference Markets and Synthetic Data Layers for high-value AI outputs, and more.

ArenAI (DeFAI): ArenAI is the intelligent execution layer of HPP, introducing a new category of on-chain finance

Designed to democratize access to institutional-grade strategies, ArenAI enables users to deploy AI agents that automate trading and risk-managed strategies across all tradable markets. These agents function as intelligent bots, capable of executing complex actions autonomously while maintaining transparency, verifiability, and user control.

For Users

- Access advanced, AI-driven trading strategies with no coding required.
- Manage AI agents through smart accounts and session-based permissions.
- Retain full control over funds while agents execute in real time across chains.

For Strategy Providers

- Launch strategies as AI agents that operate across DEXs and CEXs.
- Monetize via HPP-based subscription and performance fee models.
- Reach a global, on-chain user base without managing frontends or custodial infrastructure.

ArenAI agents are powered by **Noösphere's off-chain compute and reasoning layer** and operate on foundational principles of risk-aware design, modular DeFi abstraction, and privacy-preserving execution. Agents are designed to dynamically assess market conditions, execute trades across multiple liquidity layers, and adapt strategies based on real-time data.

5. HPP: the Alliance

Aergo: AI-Blockchain Infrastructure

- Verifiable AI training data and lightweight model hosting
- Smart contract logic for enterprise-grade AI deployment
- Aergo for compliance; Ethereum Layer 2 for dApps and DAOs
- Enhanced tooling for Proof-of-Inference and decentralized model specialization and learning

Alpha Quark (AQT): Asset Intelligence

- AI-driven valuation of RWAs and NFTs
- On-chain verification and financialization tools
- Bridging traditional finance with Web3 asset markets
- Real-time price feeds and predictive analytics for tokenized real estate, collectibles, and financial instruments

Booost: Human & Synthetic Data Layer

- Personhood verification and Sybil-resistance systems
- Human-curated and synthetic datasets for AI training
- Privacy-preserving identity tools
- Onboarding layer for verified user interactions in social, gaming, and metaverse environments

W3DB(VaaSBlock): Trust & Certification Layer

- Verification-as-a-Service (VaaS) for AI models and data
- Ecosystem-level identity and trust scoring
- Integration into decentralized AI marketplaces
- On-chain attestations, reputational staking, and tamper-proof model audits

6. Business Models

The House Party Protocol employs a vertically integrated business model built on four interconnected pillars, each leveraging decentralized infrastructure and AI-native capabilities. These pillars are designed to unlock value across the AI and Web3 data lifecycle while enabling monetization opportunities for enterprises, developers, and data contributors.

(1) Data-as-a-Service (DaaS)

HPP enables the creation, refinement, validation, and monetization of high-quality datasets tailored for AI training and inference. This service includes:

- **Curated and Synthetic Dataset Monetization:** Verified datasets, whether from real-world sources or synthetically generated, can be listed, licensed, and

monetized on the HPP marketplace. Contributors are rewarded based on data utility, relevance, and provenance.

- **Proof-of-Personhood APIs for Identity Verification:** HPP offers APIs for enterprises to integrate personhood verification into applications, ensuring sybil-resistance and enhancing user authenticity in social, financial, and digital governance systems.
- **Subscription-based Data Pipelines:** Organizations and AI developers can subscribe to dynamic data feeds (real-time or batch) for specific industries such as healthcare, finance, supply chain, or gaming. Premium tiers offer access to proprietary labeled datasets with compliance assurance.

(2) Compute & AI Deployment Layer

As an alternative to centralized cloud AI platforms, HPP provides a decentralized AI infrastructure with transparent execution and lower operational overhead:

- **Pay-per-Use AI Inference and Model Hosting:** Developers and businesses can deploy AI models onto the L2 network for decentralized hosting and run inference tasks on demand, paying only for the compute they use.
- **Enterprise Licensing for AI Deployment:** HPP enables enterprises to deploy proprietary AI models via smart contracts, with licensing frameworks that allow usage restrictions, IP protection, and SLA-based performance guarantees.
- **Developer SDKs and Tooling:** The platform offers SDKs, APIs, and no-code interfaces that streamline the integration of AI models into Web3 dApps and enterprise systems.

(3) Verification-as-a-Service (VaaS)

Trust is a foundational layer of HPP. The VaaS module facilitates ecosystem-wide credibility via transparent verification processes:

- **Certification of Models and Datasets:** AI models and datasets can undergo peer-reviewed certification processes with tamper-proof logs. Auditable metrics like bias scores, accuracy ranges, and data lineage are embedded.
- **Compliance-Focused Trust Layer:** Enterprise users can leverage audit-ready data and models to meet internal or regulatory compliance requirements across jurisdictions.

- **API Access for Audits and Monitoring:** External entities such as auditors, researchers, and compliance officers can access verification APIs for automated compliance checks, reproducibility validation, and real-time monitoring.

(4) AI-Driven Asset Intelligence

By integrating Alpha Quark's asset valuation systems, HPP supports tokenized asset analytics and DeFi integration:

- **Smart Contract-Based Valuation of RWAs and NFTs:** Real-world assets and NFTs can be valued dynamically using AI models hosted on-chain, with logic baked into smart contracts for automated pricing, liquidation, or rewards.
- **On-Chain Analytics for Tokenized Assets:** HPP includes modules for tracing asset ownership, transaction histories, and behavioral trends, enabling richer insights for investors and marketplaces.
- **DeFi Integrations and RWA/NFT Collateralization:** Tokenized assets validated via HPP can be used as collateral in lending, staking, or insurance protocols. AI risk scoring ensures more intelligent capital deployment.

These business models enable recurring revenue through usage-based fees, data licensing, and AI infrastructure services.

7. Token Utility

Token: HousePartyProtocol (Ticker: HPP)

All network activities on the HPP mainnet, including AI model deployments and inferences, smart contract execution, data verification, and cross-chain interactions, will require transaction fees. These fees play a critical role in maintaining network security, ensuring fair resource allocation, and incentivizing active participation across the ecosystem.

By default, HPP tokens will function as the primary gas token for covering these fees. Whether users are executing AI-driven computations or engaging with standard blockchain operations, all interactions on the HPP network will be settled using HPP.

Beyond transaction fees, HPP tokens are also used to access a variety of services offered by dApps and ecosystem partners on the HPP mainnet, including access to training datasets, AI-driven asset valuation, and model verification tools.

HPP further serves as the governance token of the broader AI alliance ecosystem. Token holders can actively participate in key decisions such as:

- Adoption of new AI standards or protocol upgrades
- Adjustments to token mechanisms
- Proposal submission and voting on strategic initiatives

In addition, HPP tokens are used for staking in critical protocol operations, particularly within the Proof-of-Inference system. Validators stake tokens as a guarantee to participate in verifying data and the reliability of AI models. Staking rewards are distributed to participants who contribute to maintaining the trust, accuracy, and accountability of the AI infrastructure.

HPP token utility can be broadly categorized into three key sectors:

(1) Network Usage and Access Rights

All core activities on the HPP mainnet, including AI model deployment, inference, smart contract execution, data verification, and cross-chain interactions, require transaction fees paid in HPP. These fees support:

- Network security and validator incentives
- Fair compute resource allocation
- Execution of both AI and non-AI smart contracts

HPP tokens also serve as the primary payment mechanism for accessing services across HPP-native applications, including:

- AI-powered trading bots and strategy subscriptions on ArenAI
- Off-chain compute and inference execution on Noösphere
- Access to premium datasets, model verifications, and analytic tooling

All interactions on the network are settled using HPP, making it the foundational medium of exchange within the ecosystem.

(2) Incentive Alignment and Revenue Sharing

The HPP network is designed to reward contributors based on the real-world value they provide. Several monetization and incentive mechanisms are built around HPP, including:

- **Usage-Based AI Fees:** Developers pay for services such as model inference, data validation, and synthetic generation based on actual usage. This model provides scalability and predictability for both builders and users.
- **Developer Revenue Sharing:** When dApps monetize AI-driven features such as subscriptions or analytics tools, a portion of that revenue is shared with compute node operators, model developers, and data validators.
- **AI Service Subscriptions:** Enterprise clients and data-intensive applications can subscribe to advanced services, including priority inference access, custom model training, and dedicated compute environments. These services are paid for using HPP tokens.

This structure enables a balanced and sustainable ecosystem where value is distributed across participants.

(3) Governance and Ecosystem Participation

HPP functions as the governance token for the broader AI alliance ecosystem. Token holders can participate in shaping the direction of the network through proposals and voting mechanisms, including decisions related to:

- The adoption of new AI standards and interoperability frameworks
- Approval and implementation of protocol upgrades
- Community-driven selection of strategy providers on ArenAI

By staking HPP tokens, holders gain the ability to influence major decisions and align governance with the long-term interests of the community.

(4) Crypto-Economic Security and Staking

For AI services to operate in a decentralized context, they must be reliable, auditable, and secure. The HPP token plays a key role in enforcing these properties through economic incentives and accountability:

- **Staking for Service Integrity:** Participants such as model trainers, data providers, and validators must stake HPP tokens as a performance bond. Failure to meet service level agreements may result in token slashing.

- **Proof-of-Inference System:** This system verifies the integrity of off-chain computations. Verifiers stake tokens and are rewarded for delivering accurate, timely, and unbiased results.
- **On-Chain Identity and Audit Trails:** Every AI interaction, model output, and dataset is timestamped and recorded on-chain. This enables full transparency and provides an auditable history of all activities.

Through this framework, HPP ensures the long-term trustworthiness and resilience of its decentralized AI infrastructure.

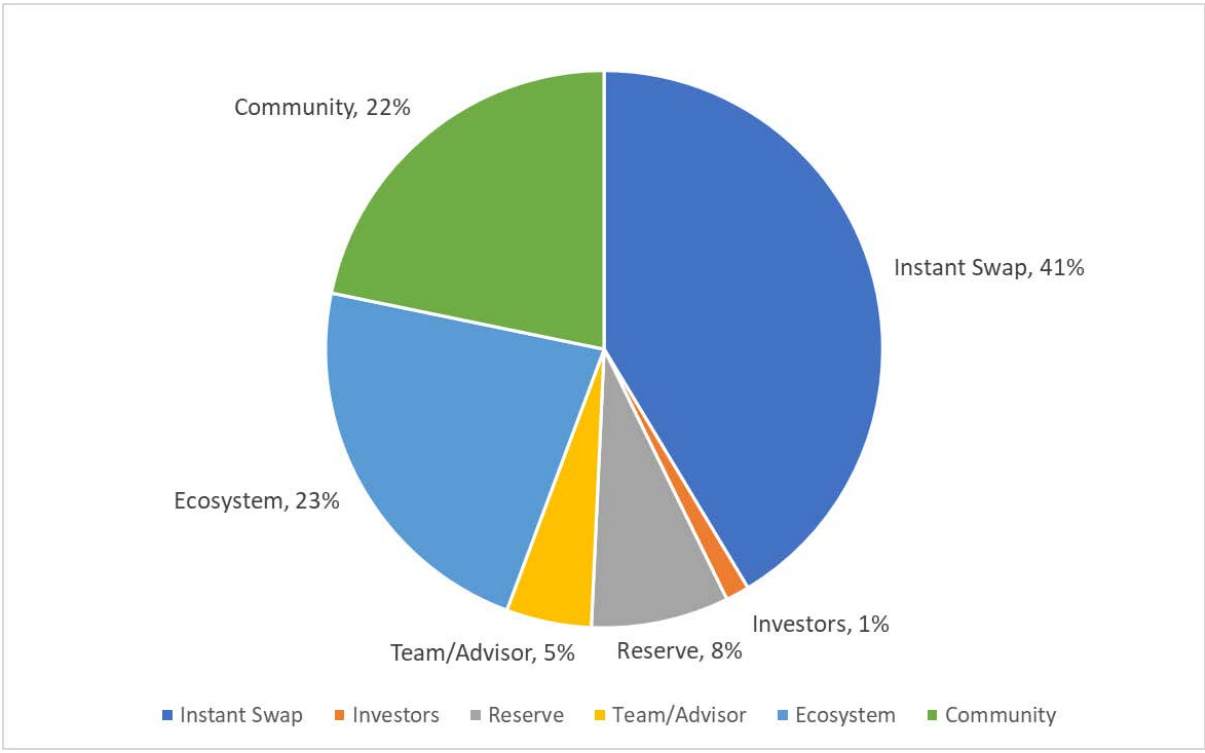
8. Token Distribution and Vesting Schedule

Token Distribution

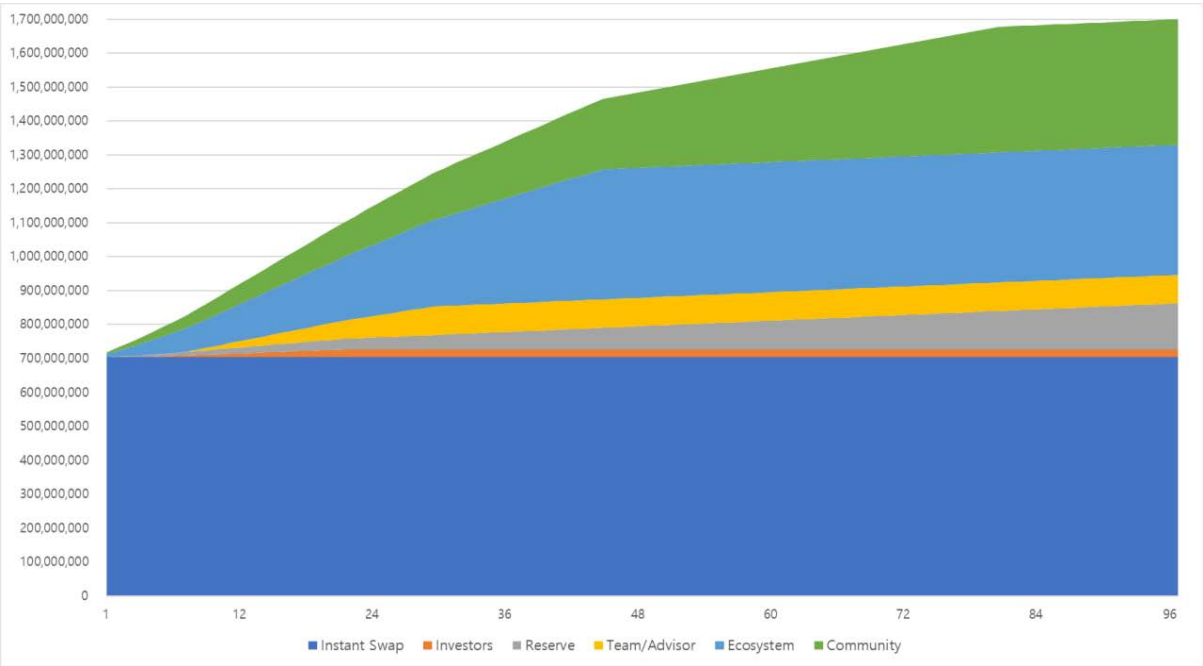
Token distribution is structured as follows in the table, outlining the allocation percentages, vesting periods, and strategic purposes behind each category to ensure long-term ecosystem sustainability and stakeholder alignment.

Vaults	Allocation	%	Vesting Schedule
Instant Swap	703,259,408	41%	Fully unlocked on Day 0 for legacy token holders
Investors	23,260,827	1%	4-month cliff, 18-month linear vesting
Reserve	136,000,000	8%	96-month linear vesting
Team/Advisors	84,076,747	5%	8-month cliff, 22-month linear vesting
Ecosystem	383,379,669	23%	45-month linear vesting
Community	370,023,349	22%	80-month linear vesting

This pie chart illustrates the detailed allocation of the HPP token. 45% of the total supply, representing 76% of the newly issued tokens, is allocated to the ecosystem and community, emphasizing a long-term commitment to all stakeholders.



Allocations for the team, investors, and reserve are structured with vesting schedules extending up to 96 months, ensuring long-term alignment with the project's sustainable growth. As illustrated in the chart below, Investor, Reserve, and Team/Advisor allocations are gradually unlocked over time, while Ecosystem (light blue) and Community (green) allocations scale progressively, reflecting HPP's strong commitment to ecosystem development and community empowerment as the network evolves.



9. Conclusion

The House Party Protocol (HPP) represents a bold and necessary evolution at the intersection of decentralized infrastructure and artificial intelligence. Through its multi-layer architecture, strategic alliances, and AI-native design, HPP lays the groundwork for a new generation of decentralized applications: intelligent, transparent, and verifiable by design.

From powering personhood-based interactions to certifying AI models and delivering real-time AI Oracles across blockchains, HPP is positioned to become the foundational layer of tomorrow's digital economy.

As we move forward, our focus remains clear: to build with purpose, evolve through collaboration, and scale responsibly. We invite developers, enterprises, data contributors, and the broader community to join us in shaping a smarter, more trustworthy ecosystem of verifiable AI and connected by the House Party Protocol.

10. Disclaimer and Risk Notice

Disclaimer

IMPORTANT: Please read the complete disclaimer before reading this whitepaper.

The HPP WHITEPAPER("Whitepaper") is written to provide information on the House Party Protocol("HPP") project and is descriptive and not legally binding. This Whitepaper is provided by the HPP Team on an "as is" basis, and any content in the Whitepaper may be amended, updated, or replaced at any time, without prior notice, at the sole discretion of the HPP Team. The most current version will supersede all prior versions.

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Risks

1) The purchase of HPP Tokens("HPPT") may result in material losses to purchasers, including the material assets paid for the purchase of HPPT. The HPP Team shall be exempted from any liability for damages and losses of value and/or liquidity of HPPT subject to force majeure factors such as changes in regulatory frames, or others.

2) Blockchain Risk: The Ethereum protocol may have weaknesses and vulnerabilities.

3) Transaction privacy leakage: Personal information breaches can lead to HPPT loss.

4) Security vulnerabilities: Mining attacks and blockchain attack risks

5) E-Wallet compatibility risk

6) Force Majeure: Risk of project modifications due to technical, legal, and administrative regulatory changes

7) Token Distribution and Market Impact Risk

Purchasers are deemed to have consented to the purchase and sale of HPPT to be aware of and purchasing HPPT as is, without any warranties of any kind whatsoever.

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