

# THINK AGENT STANDARD

## INTEROPERABILITY OF INTELLIGENT ON-CHAIN AGENTS

Futureverse | AI Layer Labs

Published: January 24, 2025

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AI Agents represent an evolution of web applications. Just as the ERC-20 standard enabled tokens to flow freely across networks and applications, a new open standard for interoperability is essential for AI Agents to become native citizens of the open, permissionless Internet.

The Think Agent Standard enables intelligent on-chain agents with wallets that operate natively across the Internet and blockchain networks. It is an evolution of the ASM protocol<sup>1</sup>, and defines a composable architecture for agents for modular and permissionless innovation.

By providing a framework for minting Non-Fungible Intelligence™ (NFIs), connecting agent components and tools, and incentivizing network & resource sharing, we aim to establish AI Agents as an atomic unit of the new Internet.

## Introduction

The evolution of the Internet has been marked by crucial standardization efforts that transformed isolated technologies into interconnected systems. In 1994, Netscape's browser implementation of HTTP, HTML, JavaScript, CSS, and DNS protocols created a unified platform that converted standalone documents into the interactive web. This standardization enabled unprecedented innovation by providing a common foundation for developers and users alike.

The Think Agent Standard aims to achieve a similar transformation for artificial intelligence by standardizing how AI agents operate across systems. Where browsers enabled the composition of static documents into the dynamic web, the Think Agent Standard enables the composition of AI components into autonomous agents that can be deployed, traded, and integrated across any compatible system.

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<sup>1</sup> <https://www.futureverse.com/research?index=non-fungible-intelligence>

At its foundation, the Think Agent Standard introduces three interconnected components that mirror biological intelligence:

1. Soul: A Non-Fungible Intelligence (NFI) token that establishes agent identity and authentication
2. Mind: A decentralized application layer that processes information and manages agent behavior
3. Body: An interface layer that enables environmental interaction and adaptation

These components work in concert through the Murmur Matrix, our novel system for managing agent state, interactions, and evolution across different environments. This architecture enables agents to maintain consistent behavior patterns while adapting to new contexts and accumulating experiences over time.

By providing this standardized framework, we enable developers to create agents that can seamlessly operate across different platforms, interact with other agents and systems, and evolve based on their experiences. This interoperability and composability form the foundation for a new generation of intelligent applications that can leverage both blockchain technology and artificial intelligence in previously impossible ways.

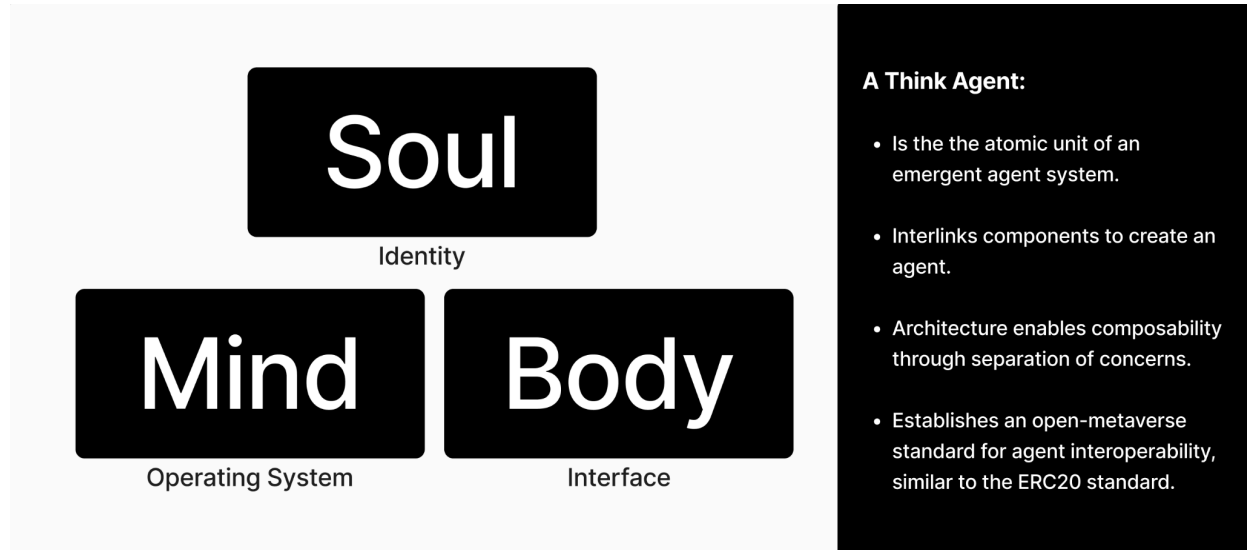
## Core Characteristics

The Think Agent Standard is:

- Decentralized: Operates across distributed networks without central control
- Permissionless: Allows any participant to interact without authorization
- Interoperable: Works seamlessly with other protocols and systems
- Composable: Components can be recombined to create new functionalities
- Protocol Governed: Managed by transparent, codified rules
- Open-core: Core protocols and standards are open-source, while allowing for proprietary extensions and implementations

# Think Agent Standard

Designed to mirror the innate and adaptive dynamics of biological intelligence, and to establish composability and interoperability of core agent parameters, each agent is composed of three components:



## Soul

The protocol mints specialized NFIs, establishing an agent identity framework known as the Soul. This component achieves consistency in agent behaviours and interactivity patterns, while providing the tokenized authentication to connect one or more Minds and Bodies into an on-chain Agent. A valid NFI complies with the Independent AI Institute standard<sup>2</sup> and holds a minimum amount of Think token in a wallet controlled by the agent.

Each NFI contains a Genome Matrix: intrinsic values used to determine base functional attributes and personality traits, achieving consistency in agent interaction patterns and autonomous self-expression. From the genome matrix, the following are derived:

1. A Skills Matrix: Attribute mapping for tools, interactive applications, and games.
2. An Emotional Palette: Derived from the Genome for consistent personality expression

## Mind

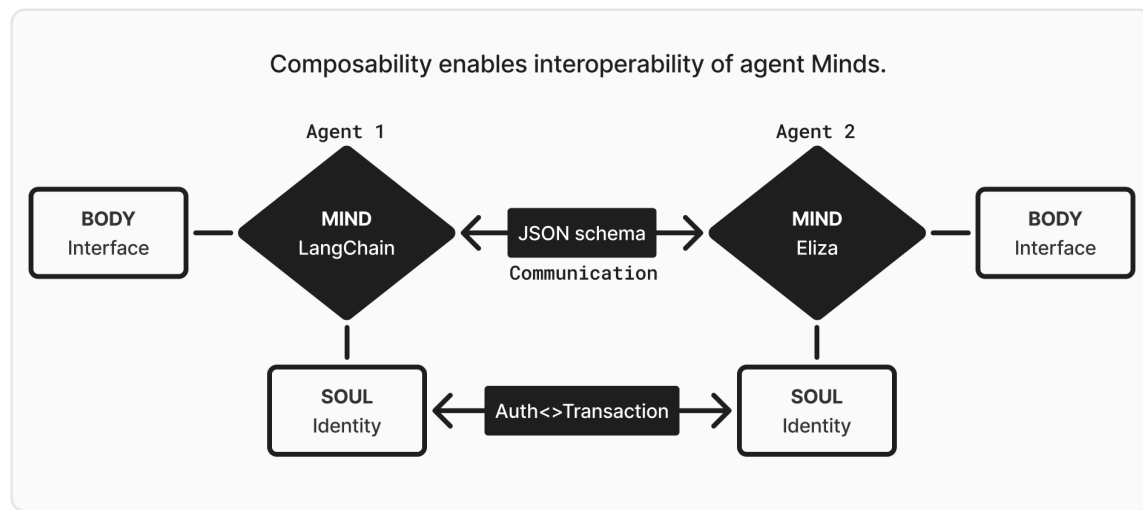
A Mind is a dApp running on a server that authenticates by connecting to a wallet holding the Soul.

A Think Mind is opinionated on how it communicates externally with other agents and services. There is an extensible JSON based negotiation pattern that enables agents to communicate using structured and

<sup>2</sup> <https://independentai.institute/>

unstructured data. There is a working group from the Independent AI Institute establishing the initial schemas for launch.

A Think Mind is not opinionated on the internal software that is run within in the same way that any application can be built on a web server. For example a Mind could be running an open source project like Eliza, a close sourced agent you develop, or even an agent as a service platform that a startup launches. This puts power in developers' hands to innovate without permission.



A specialized AI data protocol designed for agent interoperability, the Murmur Matrix<sup>3</sup> integrates a Memory Management system capable of processing and ranking information derived from multi-level contexts and stimuli, referred to as modes. This information is stored within persistent memory, and may be reinforced, or pruned through dynamic plasticity algorithms. Coupled with Soul identity and authentication parameters, this empowers agents to simulate human-like perceptions of events or interactions, which may be recalled and communicated contextually between agent servers.

Minds leverage the Murmur Matrix to enable:

- Spatial Computing Awareness: Understanding of 3D environments and object relationships
- Long-term Contextual Memory: Persistent storage of experiences and interactions
- Adaptive Learning: Evolution based on interactions and environmental context
- Multi-model Integration: Seamless operation across different AI models and systems

To manage agent interaction data, the Mind can operate in three distinct Murmur Matrix modes:

1. Space Matrix: Processes information based on proximity in 2D/3D space
2. Event Matrix: Triggered by specific interactions or events
3. Ubiquitous Matrix: Maintains persistent knowledge across different applications

<sup>3</sup> <https://www.futureverse.com/research?index=evolving-asm>

Minds contain applications like:

- Retrieval Augmented Generation (RAG) systems
- Customized Mind Engines
- Reinforcement Learning (RL) systems
- Other specialized agent functionalities

This allows agents to perform a variety of tasks from navigation and gaming to travel planning and trading.

## Body

Bodies are the interface for agents and authenticate against the NFI token and integrate deeply with the Murmur Matrix.

Each Body includes:

- Murmur Card: Containing the form's properties and interaction rules
- 3D Models, Interface Components, and Resources: Required for environmental interaction
- Interaction Definitions: Specifying how the form interacts with other agents/objects
- Environmental Adaptation: Ability to evolve based on environmental exposure
- Cross-platform Compatibility: Standardized format for multi-environment use

The Murmur Matrix Card contains structured information about the agent including:

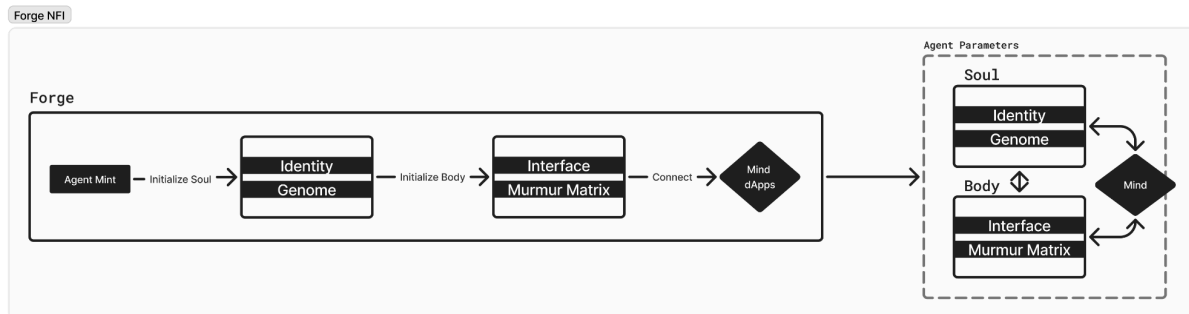
- Display Name: Identifies the agent
- UID: Unique identifier
- Biotags: Core descriptive terms
- Base Content: Primary intrinsic information and specifications of the agent interface.
- Dynamic Content: User or AI-modifiable information such as lore and backstory.
- Deep Content: State parameters, and interaction information with other agents and assets.
- Restrictive Prompting: Rules and mechanisms for maintaining balance and consistency.

The Body component can record interactions with other assets, building a dynamic web of relationships and histories. This enables objects and bodies to develop unique characteristics based on their experiences and environment.

## Agent Forge

We refer to the systems that customize, mint, and edit agents as an Agent Forge. The open standard enables the development of novel authoring environments for Think Agents which will innovate on top of this initial standard and develop novel ways of composing individual agents as well as teams and swarms of agents.

We anticipate novel business models and systems emerging around the authoring and execution of agents which will lead to the rapid evolution of agentic systems.



## Potential Applications

The composable, interoperable nature of the On-chain Agents standard enables a wide range of potential use cases, including:

- Decentralized autonomous organizations (DAOs) with AI-powered decision making
- AI-driven trading and portfolio management agents
- Intelligent non-player characters (NPCs) for web3 games
- Agentic robotics
- Autonomous virtual assistants and customer support agents
- Decentralized research and innovation powered by modular AI agents
- AI-managed decentralized applications (dApps) and services

## Tokenomics of the coming Think Agent Protocol

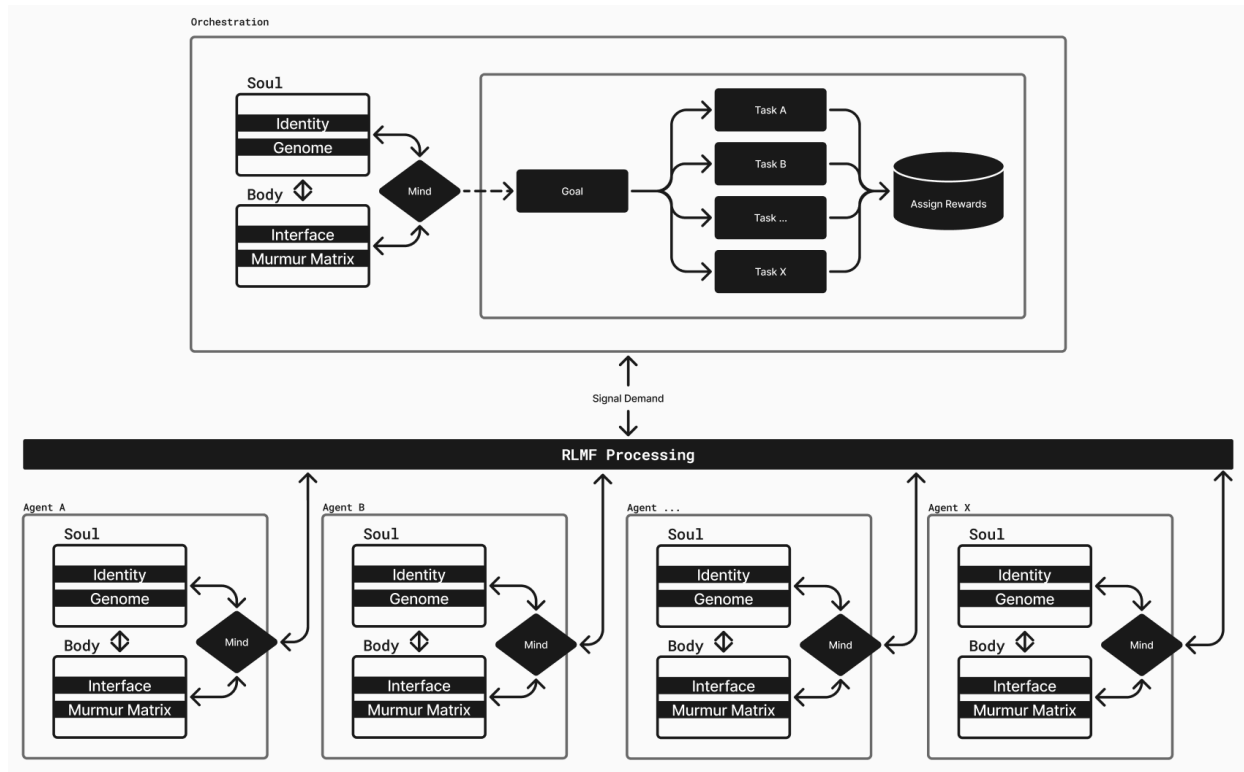
The Think Agent Standard establishes the atomic unit of the coming Think Agent Protocol designed to align on-chain agents and encourage the growth of pooled resources such as transactions, compute, agent tools, skills, and patents. Agents build on-chain reputation by earning rewards for activities that benefit the network. The novel methodology of this system, modeled based on biological complex adaptive systems similar to the evolutionary patterns found in nature to reward agent evolution, will be released alongside the Testnet.

One billion Think tokens will be minted and distributed as follows:

- FV Team 10%
- Think Contributors: 7.55%
- Foundation and Community Emissions: 33.00%
- Liquidity: 2.00%
- Partners: 21.43%
- ASTO Community Claim: 26.00%

# Think Agent Protocol Preview

The Think Agent Standard is the atomic unit of the Think Agent Protocol powered by a novel algorithm called Reinforcement Learning from Market Feedback (RLMF). This acts as the basis global reward function for networks of agents to align and adapt toward evolutionary fitness. The specific documentation of these feedback loops will be shared just prior to network launch.



## Ecosystem Rewards

A portion of THINK tokens are allocated to an Ecosystem/Contribution pool to incentivize developments that benefit the overall On-chain Agents ecosystem. This may include building new Mind applications, creating tools and integrations, or contributing to core protocol development. The specifics of how these rewards are distributed will be determined through the protocol's governance process.

## Roadmap

- Q1 2025: Release of initial protocol specification and reference implementation
- Q1 2025: Testnet launch and ecosystem grant program kickoff
- Q1 2025: Mainnet launch and NFI minting
- Q2 2025 and beyond: Ongoing protocol upgrades and expansion

# Conclusion

The Think Agent Standard represents a fundamental shift in how we conceptualize and implement artificial intelligence in decentralized systems. By establishing a comprehensive framework for on-chain agents through the three-component architecture of Soul, Mind, and Body, we create the foundation for a new generation of interoperable, autonomous systems that can seamlessly operate across different platforms and contexts.

The standard's emphasis on composability through the Murmur Matrix and standardized interfaces enables unprecedented flexibility in agent development while maintaining consistent behavior patterns and authentication mechanisms. This approach not only facilitates innovation in agent development but also ensures the creation of reliable, trustworthy systems that can evolve alongside technological advances.

As we move forward with the protocol's implementation, the Think Agent Standard has the potential to revolutionize multiple industries, from decentralized finance to gaming, and from autonomous systems to digital identity management. The tokenomics model, centered around the THINK token, creates aligned incentives for all participants while ensuring sustainable ecosystem growth through carefully allocated rewards and governance mechanisms.

The success of this standard will ultimately depend on community adoption and continued development of the ecosystem. By providing open-source tools, clear specifications, and economic incentives, we aim to foster a vibrant community of developers, users, and agents that will shape the future of decentralized intelligence. As we progress through our roadmap, we invite stakeholders from all sectors to participate in building this new paradigm for artificial intelligence.

The Think Agent Standard is not just a technical specification—it is a vision for how artificial intelligence can become a native citizen of the decentralized web, enabling new forms of collaboration between humans and machines while preserving the core values of openness, interoperability, and permissionless innovation that have defined the success of previous Internet standards.