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Balance DAO

General Background on Protocol

BalanceDAO is a decentralized POS protocol that offers the ability for users to build AI models/agents to contribute to the ecosystem. The AI models and agents within the ecosystem work collaboratively to create an AI expert trading system. That system allows for the AI agents to autonomously trade on the users behalf. Those features will be accessible to clients who own the native utility token $BAI. The validators validate the blocks and quality of the AI nodes based on the AI reputation system of BAI and their respective DAO. The AI nodes are responsible for creating blocks, hosting the agents, connectivity and running the AI models. The highest graded nodes receive the highest rewards.

Currently the protocol V0 is in full operation. $BAI holders have early access to the AI models for feedback. V0 is testing staking and validation Alpha Balance Testnet. Currently there is a grant program for suppliers to submit their risk AI model and there will be more grant programmes released in the near future.

Macro Factors Impacting Protocol

Balance DAO is a blockchain that offers the ability to use AI agents to complete complex tasks with limited to no supervision. AI agents are the natural next step to the application for ML, and AI technology. AI Agents allow users to have systems that autonomously improve themselves. Sylvain Duranton from Forbes describes the potential of AI agents as, "we will see autonomous AI agents working alongside humans in all facets of life, from banking to healthcare. These agents won't replace people; they will enhance our capabilities, save our time and reduce human error – ultimately increasing our productivity and even save lives" (Dec 7, 2023). In the case of Balance DAO They are going to be using their agents to build out ML finance applications. Machine learning has already become an integrated part of trad-fi, with the Corporate Finance Institute identifying its use cases for "several financial services and applications, including managing assets, evaluating levels of risk, calculating credit scores, and even approving loans." Machine learning in the financial sector has seen significant growth in 2023 at a market size of $158 billion, and is expected to reach 528 billion by 2030. It's clear that the future of capitalizing on financial markets is going to be supported by machine learning systems. DeFi markets are looking stronger than ever with Ether projected to reach near 40 thousand dollars by 2030.

This is promising for Balance DAO because their protocol is based around using complex DeFi trading strategies, where Etherium is the current home of DeFi. Balance DAO has a complete in house approach to ML where it is open source and all on one network, operating a complete AI Agent ecosystem. Balance AI has positioned itself as a strong potential competitor in a high growth market.

The Team

Currently the team remains anonymous. According to telegram admins, "Team consists of 3 dev's + Marketing Expert + Quant + AI Expert, now expanding to Social Media Managers + Graphic Designer + 1 more dev. The team has collaborated with the Astar Project, as well as in decentralized finance (DeFi) with various projects across different networks." After extensively looking through the telegram and resources provided by the whitepaper, the development team isn't doxxed.

General Auditing Background for Protocol

Currently the auditing company BAI is collaborating with remains to be disclosed. They have chosen and are currently in discussions with an auditing company regarding the assessment and audit of the source code for version 0. These discussions aim to establish a collaborative partnership wherein the auditing company will thoroughly scrutinize our codebase, ensuring its integrity, security, and compliance with industry standards and best practices.

Specific on What Protocol Does

The creation of a pure AI model marketplace using autonomous agents. Creating an incentivized ecosystem in which consumers and producers of AI products can interact in a trustless, open, and transparent context. The protocol expects to host generative AI, financial models like hedging, yield optimisation, and text to image models. Balance AI has teased a financial model that will generate recommendations for pool position trades with system parameters: time frame, risk-reward ratio, diversification, and limit per trade (leverage). The user will also have the ability for the model to generate tool tips. This system will inform traders in situations where they can, buy or sell, or assess risk limit per trade, as well as the autonomous execution of these strategies using AI agents.

Decentralization and Blockchain: It uses blockchain technology to create a trustless and transparent environment where AI models can be shared and accessed. The blockchain serves as a ledger that records transactions for AI model interactions and usage.

Multi-Agent Systems: The protocol employs multi-agent systems (MAS) where multiple AI agents, each with specific goals and capabilities, interact within this blockchain environment to solve complex problems or perform tasks like trading, portfolio management, or optimization.

AI Models Marketplace: It provides a marketplace for AI models where autonomous agents can consume and produce AI products. This includes various AI models such as generative AI, financial models, and text-to-image models.

Reward Mechanism: Contributors of AI models are rewarded with a native utility token (e.g., $BAI) based on the value they provide to the system, promoting an incentivized ecosystem for model development and sharing.

Proof of Stake: The underlying blockchain uses a Proof of Stake consensus mechanism, which is typically more energy-efficient than Proof of Work and requires validators to hold and stake the native token.

AI Financial Agents: The protocol also addresses the use of AI in financial settings, where AI agents can autonomously perform financial tasks such as analyzing market data, executing trades, and managing investment portfolios.

Expert Systems: These are computer systems emulating decision-making ability for a particular domain. The expert system in this protocol seems to be one part of the risk management framework, consisting of a user interface, a knowledge base, and an inference engine.

Reinforcement Learning: This method is used for machine learning where an agent learns to make decisions by performing certain actions and receiving rewards or penalties. It's a part of the adaptive learning and decision-making process within the protocol.

Protocol Core: The core network comprises nodes that validate, transmit, and store various types of data. There are risk assessment nodes and AI nodes that enhance the functionality and security of the network.

AI Nodes: Implemented on the blockchain, these nodes utilize multi-agent systems for risk assessment and decision-making. Node will be incharge of executing the AI models and will generate incentives in $BAI.

Agents VM: Agent's virtual machine (VM) is a runtime environment for executing AI agents. Thai provides a sandbox-like environment where agents can be adapted without impacting the underlying protocol. In the VM, developers will have tools that will help them improve and work on their agents such as debugging, testing, and monitoring. Overall these tools will make the agent development process more efficient and streamlined. The fundamental proposition of the VM is to make agents scalable and interoperable. With these qualities the addition of the VM will enable the execution of complex decentralized applications that require interaction with multiple AI models.

DAO Feedback and Risk Management: A decentralized autonomous organization (DAO) structure seems to provide feedback for risk management, ensuring that the system adapts and evolves based on the actions and decisions made. The DAO is operated by Balance DAO, Token holders are not afforded governance rights.

Why the Protocol Offering Matters to Consumers

A self-supported AI ecosystem marketplace on an L1 that incentivizes improved model outputs while disincentivizing dysfunctional models outputs. Their architecture supports a broad set of potential Dapps, and practical use applications. The end goal of this project will see AI agents operating and controlling the adaptation and improvement of both the blockchain, and the respective models. Models will be tested and refined in a sandbox environment before being moved on chain. These models will operate on a virtual machine that will allow for complex multi-agent and model interoperability. This ecosystem will be able to provide complex models for querying diverse data sets. The focus is on financial strategies but will expand to LLM, text2image, and other AI models. Balance DAO has the potential to be the one stop shop marketplace for all things bespoke AI models. AI agents are going to be able to operate complex trading strategies for users autonomously which is going to streamline the DeFi investing process for users.

The multi-agent system is going to allow producers of the AI models to build off of the technology of each other which should remove the barriers to entry for creating new models. Current mainstream AI models are dominated by centralized institutions where the user has no stay in the improvement or features of the AI model. Centralized AI models are capitalistically inefficient considering their monopolistic position in the market. Balance DAO offers open sourced AI models which are going to foster development and growth whereas companies like OpenAI are restricted by the ideas that their management put out. Balance DAO's infrastructure leverages ANN, Expert systems, and reinforced learning which are going to support the active improvement of model systems, as well as creating the infrastructure for multi-agent systems. Balance DAO has put out the building blocks for both a technically sound functional architecture and the blueprints for a robust marketplace which when executed will place them at the forefront of the AI blockchain industry.

Protocol Versus Competitors Chart

Balance DAO shows very strong technical understanding and thought through roadmap plans; their competition is equally strong and has more features and economic intuition that puts Balance DAO midpack in the AI agents marketplace.

Protocol	AI Models	AI Agents	Burning Mechanism	AI Model Incentive	Utility Coin	Architecture
Balance DAO	Yes	Yes	No	No	Yes	Monolithic
Noya.AI	Yes	Yes	N/A	N/A	N/A	Modular
ELNA	Yes	Yes	Yes	Yes	N/A	Modular
Fetch.AI	Yes	Yes	Yes	Yes	Yes	Modular
Aarnâ	Yes	No	N/A	N/A	N/A	Monolithic
Vingt.io	Yes	No	Yes	Yes	N/A	Modular
Opsec	Yes	No	Yes	No	Yes	Modular

Protocol	Protocol Focus	Features
Balance DAO	open-source protocol that powers a decentralized, blockchain-based machine-learning network. Machine learning models are used collaboratively and are rewarded.	- AI agent virtual machine - AI financial models - AI marketplace - ZKML
Noya.ai	NOYA executes scalable Omnichain DeFi Strategies using Smart Liquidity that uses AI to predict and optimize yields, bridging fees, slippage, and rewards.	- ZKML - Use of Omnivaults - Seamless integration of bridge and DEX aggregators
Elna.ai	ELNA is a community-driven decentralized AI agent creation platform that bridges the gap between the development, creation and monetisation of AI agents on the blockchain.	- Community-driven, secure & transparent AI agent creation platform - Developed AI creator and user economics - Internet computer based on canister and Network Nervous Systems
Fetch.ai	Build, deploy & monetize AI marketplaces. An open platform for the new AI economy.	- Ecosystem for creating and monetizing autonomous economic agents - Autonomous transactions on Etherium indexes, Uniswap
Aarnâ	Aarnâ protocol gives individual investors intelligent, uncomplicated access across crypto & DeFi.	- Non-custodial architecture - Fully decentralized - Users tokenize their investment strategies using â_fi smart contracts
Vingt.io	Vingt.io is an AI-based DeFi ecosystem with an extensive application layer that securely bridges traditional investors with the decentralized market, fostering innovation and profitability.	- Creation of customized tokenized strategies and indexes - concentrated liquidity DEX - execute smart contract functions based on conditions specified without having to create and maintain a centralized stack
Opsec	The mission is to explore, implement, and guide the creation of a secure, efficient, and decentralized digital ecosystem.	- AI technology to maintain blockchain - Access to Virtual private servers, domain hosting, and other cloud infrastructure

Despite being very new, the blockchain AI space has already put up some very strong projects that offer groundbreaking features and innovative systems that have the potential to change the DeFi trading space. The most ambitious protocol in the space is Balance DAO, with their monolithic ecosystem architecture they are relying on the potential described in their white paper matched with an active team to drive users and creators. Fetch.AI has proven the value of autonomous AI agents in financial transactions, which has driven substantial attention to the AI agent protocol marketplace. Balance DAO's competitors leverage AI technology and capitalist assumptions to create functioning and scalable AI and AI agent economies where the user and creator both reap rewards. In contrast, Balance DAO understands how

they want to see their models and agents interact but has failed to identify the specifics of how they are going to incentivize creators to participate in their ecosystem. This concern however could be easily cleared up once they reach V1. Considering that Balance DAO's chain is currently in test net there is plenty of time for the information discrepancy to clear up.

Protocol Go To Market Strategy Versus Competitors

Balance DAO offers a very similar value proposition to ELNA and NOYA. Balance DAO's biggest point of differentiation is to use AI agent VMs to optimize and improve agent and model infrastructure. Balance DAO wants to have a completely automated system where expert system AI agents are improving and correcting AI Models. This is occurring while validators are doing risk mitigation. From a competitive angle, Balance DAO's model economy appears to be centralized and somewhat inefficient where high barrier to entry costs will prevent new models from entering the market. We make this claim for two reasons. One, because Balance DAO has not outlined how the micro-payments from consumers are going to be shared with the model owners, which leaves model creators in the dark in the ROI of going through the work of generating a model for Balance DAO's ecosystem. The second reason is that Balance DAO has not outlined what requirements are needed to have a model curated in their ecosystem, as each AI model must be curated before it is added to the marketplace. Considering Balance DAO's shortcoming These conflicts could easily be outlined by their team at any time which would give the producers clarity on what it takes to build on their ecosystem.

How Token Extracts Value

Machine learning models are used collaboratively and are rewarded in the native utility token $BAI according to the value they offer to the overall system. Validators who validate newly created blocks and grade the quality of AI nodes receive rewards. AI nodes who stake and run the AI models receive rewards as well. We assume that the users who contribute AI models/agents receive transaction fees in the form of the $BAI utility token. The development team also utilized an LBP to introduce their token before the on-chain launch which is V1. The LBP was paired with USDC, and has BAI's token value almost doubled in value from the start to finish. Because Balance DAO is currently working on V1, wrapped BAI offered on Etherium is the only

form of the token available. Once the protocol gets to V1 we should see the token available in its native form.

Tokenomics/Vesting Schedule

Balance DAO uses utility token $BAI (**Figure 1**):

- Seed Sale 5% (1,050,000 M)

Price: $0.3. Vesting period: (6 months) with monthly distributions, unlocking 30% after LBP finished (Jan 18th 2024).

- Public Sale 8% (1,680,000 M)

LBP started with $2.13 AVG, ended around $4. Without vesting. 100% Released

- Validators 72% (15,120,000 M)

Under Scheduled Mining

- Team / Advisors 5% (1,050,000 M)(1 year)

Vesting with monthly distributions, with a 6-month cliff. (Vesting starts after mainnet v0 is launched)

- Exchanges 10% (2,100,000 M)

Supply Mechanics: The supply of $BAI is 21,000,000 and there is a halving cycle such that for every 10.5 million blocks, rewards per block halve. Currently, every 12 seconds (one blockstep), 1 single BAI emits into the network. There will be 64 halving events, with the first occurring in 2027.

Modeling/Ratio Analysis

Protocol	Price as of 3/3/24	$Market Cap	$FDV
Balance DAO	12.74	37,756,158	267,540,000
OpSec	1.73	157,337,199	166,538,186

Elna.AI	N/A	N/A	N/A
Noya.AI	N/A	N/A	N/A
Fetch.AI	1.75	1,826,883,624	2,018,655,939
Aarnâ	N/A	N/A	N/A
Vingt.io	N/A	N/A	N/A

With AI protocols being in their infancy there is little qualitative analysis that can be done. The protocols that have no metrics are still in the process of tokenization and an on-chain launch. Based on the stages of development of Balance DAO versus its competitors, we believe that they pushed out their LBP early to gauge interest in their protocol and prove demand. Some points of conflict are that Balance DAO offers limited insights on how their BAI token economy will operate, conditions on how model creators will receive grants, and how model makers will be approved and earn revenue. Their competitors are much further along in their process of outlining how their token economy will operate, which gives investors, users, and model makers a much stronger conviction in the success of their protocol. Fetch.AI's market cap is a great example of the strength and demand that a successful AI agent marketplace has in the DeFi space. Despite Balance DAO's competitors not having live tokens, we believe that upon their coin offering they could take market share from Balance DAO due to having more developed ecosystems. It is important to note that all of these projects except for Opsec and Fetch.AI, are in their infancy and will take time to create their final product which means that assessing the current state of one protocol over another will not bear any meaningful conclusions. Balance DAO's team has been very active by posting weekly progress reports where they are showing substantial improvement.

Road Map

V0

Currently Balance Ai is in the v0 phase which sets the foundation for the future of the protocol. The protocol is the testing phase of both staking and validating off chain. Since the chain isn't in full operation the only circulating currency is wBAI. This version features the early development of the AI expert system, the wallet that is

interoperable with the wrapped currency on Ethereum. Balance AI is also offering grants to develop AI models on the protocol.

V1
V1 will be launched as an upgrade of V0's functionality which will allow for on-chain access. The AI models created after the grant will need to be registered on chain in order to further use both the wrapped SDK and AI clients. Those imperative steps will be required to be compatible with the chain's architecture to further interact with other AI , being available on the Dapp and the ability to offer its services in exchange for the protocol's native currency. During that whole process the models will be further curated.

V2
The second version is a significant expansion that includes the introduction of a recommendation engine, which uses the power of machine learning to suggest content or actions to users based on their behavior and preferences. This version also sees the integration of third-party services, broadening the ecosystem and allowing users to connect to other tools and platforms they use. Social features are enhanced, fostering community engagement and collaboration among users. The analytics engine is further refined to provide deeper insights, and there's an emphasis on scaling the infrastructure to handle the growing user base and data volume. The final step includes ZKML which will allow for validating model outputs trustlessly, while protecting the models' weights. The Agent Virtual Machine will allow for AI agents to operate and improve smart contracts and AI Models without interference. The whole push in V2 is to create a self supporting system that fluidly checks and improves itself using AI Agents based on blockchain fundamentals (**Figure 2**).

Investment Thesis

After analyzing Balance DAO, our findings conclude that WBAI is a strong purchase. It is important to note that despite the strength of their competitors, Balance DAO is the only small MC protocol with a token on the market. BAI's success depends on the development of a competitive incentive to build AI models on their platform. Their utility coin should give holders the right to participate in governance. We believe that the anonymity of the development team is a weakness due to the lack of clarity in their system. The two qualities that make this look like an attractive purchase are the availability of their coin before their competitors, and the potential outlined in their roadmap. The world is looking to AI as the future of automation. The Growth of ML

market size speaks to the implied demand that AI will have in our future. Blockchains offer the key structural, security, economic, and decentralized infrastructure that AI depends upon to create a flourishing marketplace. WIth the state of centralized AI we believe that demand is going to flood into decentralized AI like balance AI. Based on macro-trends matched with the Balance DAO's protocol feature we believe that $BAI will continue to grow in value.

Fund Recommendation

Purchase 2 Ether worth of $WBAI.
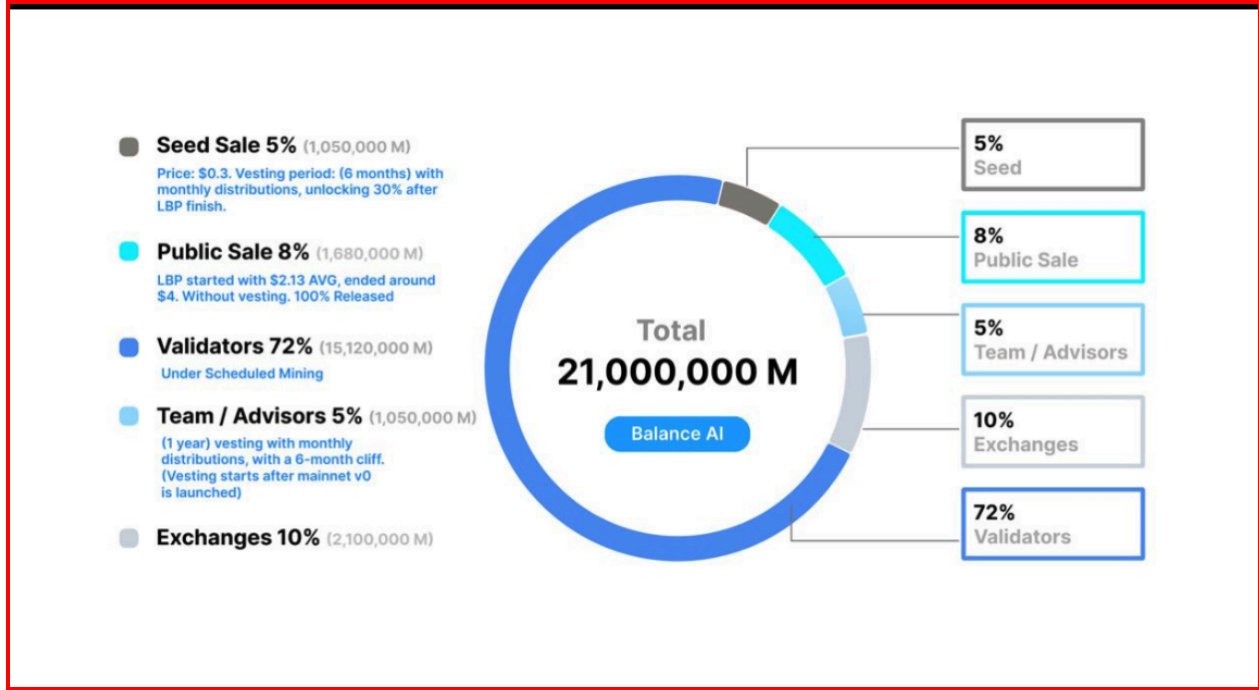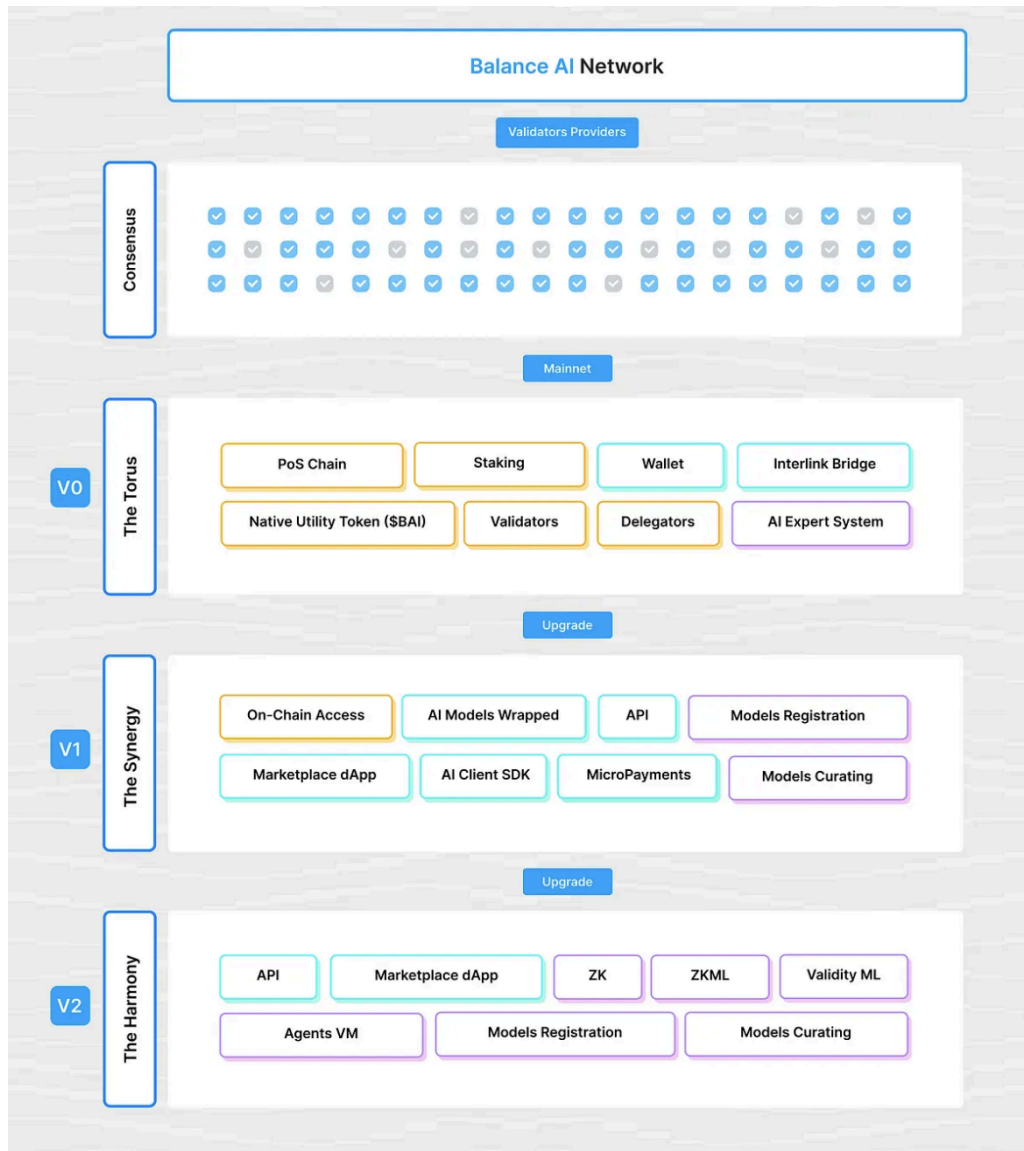
Appendix

Figure 1: Token Allocation

Figure 2: Roadmap

Sources

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