ATM

Autonomous Trust Momentum

White Paper

www.atmrank.com

1. Abstract

Definition: Building Contracts,Locking Consensus

Autonomous Trust Momentum (henceforth referred to as 'ATM') is a decentralized mechanism deployed on multiple blockchains. With the use of our main mechanisms, the consensus contract[1], two users can lock value for a predefined period. With the creation of many of these connections, we hope that a network of consensus contracts will emerge.

Mission: Build a more stable Consensus Network

Decentralized finance (DeFi)[2] is already a form of consensus network - It allows people to establish consensus in a decentralized system using blockchain technology. This current system is based on the individual and their impulses: they can buy today and sell tomorrow. ATM aims to solve this by constructing a new form of consensus, built on the strength of social networks rather than the fragility of the individual.

Solution: Build stronger connections

With the creation of the Consensus Contract the decision is removed from individuals and moved to the connections between them: "Isolated Consensus" becomes "Relative Consensus" .As more and more consensus contracts are created, a relative consensus network will emerge – one that we hope will be a more prosperous and sustainable place.

Support: Blockchains[3] and Tokens

The Consensus Contract exists on multiple blockchains that support smart contracts, including but not limited to: Binance, MATIC, Ethereum, AVAX, SECRET, CARDANO, STELLAR, RIPPLE, EOS, CONSTELLATION, ETC.

The cryptocurrencies that can be locked in these connections include but are not limited to LUCA, BNB, BTC, LINK, CAKE, and WETH, DOGE, XRP, ADA, etc.

The ATM community will have the power to vote on additional items to support.

Incentive: Mining revenues from Consensus Connections

ATM will issue its own cryptocurrency known as LUCA that will reward all users that establish Consensus Connections, where the value of the reward will be determined by the parameters of the connection. This means that users can earn additional revenue while retaining the original currency value.

Intelligent: ATMRank

PageRank is likely one of the most successful algorithms in the world. Used by Google, it always finds the page that a user is looking for by using the information that links webpages together and ranking them based on their influence.

In ATM, much like in webpages, links are created between individuals, making PageRank the ideal algorithm candidate. Based on the connections that emerge from our relative consensus, ATM's implementation of PageRank, ATMRank, will give each member a 'PR' value, which will represent their influence in the community. Using this 'PR' value, ATM will distribute the reward token: LUCA.

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2. Background

Blockchain[4] technology has become incredibly popular in recent years, perhaps because we have recognized the need for change to the current centralized economic system which suffers from problems such as economic crashes, currency over issuance and an increasing level of distrust of the establishment. The emergence of this new technology offers a new direction for the future of our economy. The core of any economy is consensus, and only with consensus can cooperation be possible.

The essence of DeFi[5] is to allow people to achieve consensus in a decentralized system utilising blockchain technology, with the hope that a new economic system will establish itself. Now, more and more public blockchains are coming online, and technologies such as Smart Contracts and NFTs are making an emergence.

Although more and more technologies are being made available to the DeFi community, they are still fragmented and there is a still a long way to go before a fully integrated and global economic system can be formed.

It is important to note that the nature of blockchain projects is still incredibly volatile, as the nature of the consensus that they are built on is fundamentally flawed – to explain this we can use a comparison of two companies that are leaders in their respective fields: Facebook and AT&T.

AT&T is currently valued at 200 billion U.S. dollars, while Facebook’ s market value is closer to 1 trillion. They are both the largest in their domain, and we believe that one of the reasons for the difference in value is the type of consensus utilized.

AT&T users can switch to other telecom services at anytime as the decision is isolated and only affects them (“Isolated Consensus”), whereas Facebook users are making a decision that would remove them from an existing social circle (“Relative Consensus”). It is impossible for a Facebook user to switch to a Facebook alternative without giving up the original social circle established on that platform (or by convincing everyone to jump ship).

We believe that the DeFi ecosystem is currently like the AT&T model: A person who is holding Bitcoin is participating in “isolated consensus” because they can choose to sell his coins at any time and give up the consensus. Instead, we believe we should look for “relative consensus” – by following in the footsteps of social networks, we will find that there is strength in numbers, trust, and momentum.

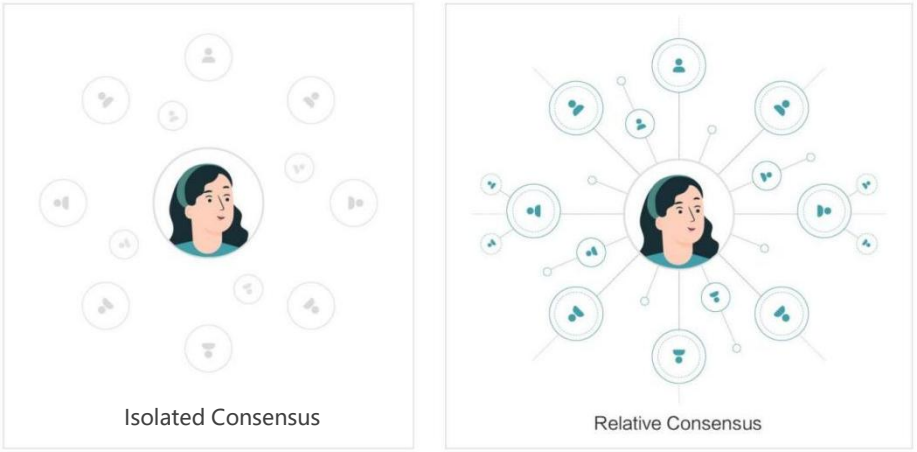

Figure1: Isolated consensus VS Relative consensus

3. ATM Infrastructure

ATM mainly consists of the following four parts:

Consensus Contract: The underlying smart contract that is used to build consensus connections between users and form the relative consensus network.

ATMRank Algorithm[6]: Used to calculate the contribution and influence of all users to the network growth and size.

LUCA Issuance: Used to reward users that build stable connections using the consensus contract.

Community Autonomy[7]: Decentralized community management enables the ATM community to evolve continuously and with consensus.

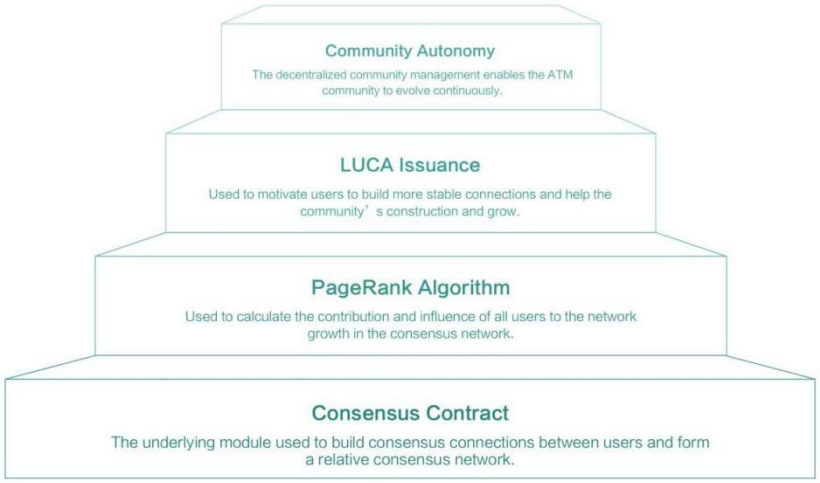

Figure2: ATM Infrastructure

3.1 The emergence of a relative consensus network.

3.1.1 What is a consensus contract?

ATM provides a smart contract known as a Consensus Contract, which allows users to connect with each other on the multiple public blockchains that support smart contracts.

User A sets up a consensus contract which initiates a request to establish a connection to user B. If B agrees, the contract will be executed, and the consensus connection will be successful.

The information stored inside of the consensus contract is as follows:

1. The currency that was invested by both parties.
2. The amount invested by both parties.
3. The length of time for which the contract will be locked, which has no limit. This is known as the lock-up period.

3.1.2 How does the lock-up period work?

During this lock-up period the contract cannot be cancelled by User A or User B independently, but instead must be cancelled jointly. After the end of the lock-up period the contract can be cancelled without the consent of the other user.

After the contract expires, it can be unilaterally terminated; or the contract will stay valid until either party instruct to terminate it.

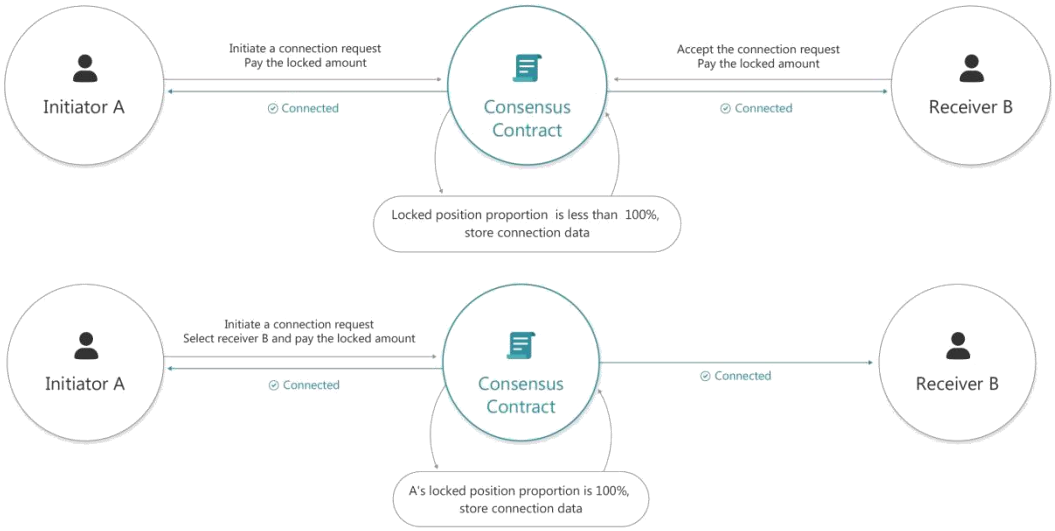

Figure3：Create consensus connection

3.2 Relative Consensus Network

As more and more consensus contracts are created, an increasingly complex network will gradually evolve and take shape. This will be a socioeconomic network composed of connected between people and will be known as the Relative Consensus Network. We believe that the network that will emerge from the technologies deployed by ATM will because the core of a new generation of decentralized economy.

On this network, countless DeFi projects and applications can enjoy a better growing environment, richer soil and wider space. At the same time, these originally dispersed projects can also interact with each other through the ATM community, resonate with each other to generate greater energy, and eventually feed back to the ATM community to form a decentralized ecosystem that encompasses everything.

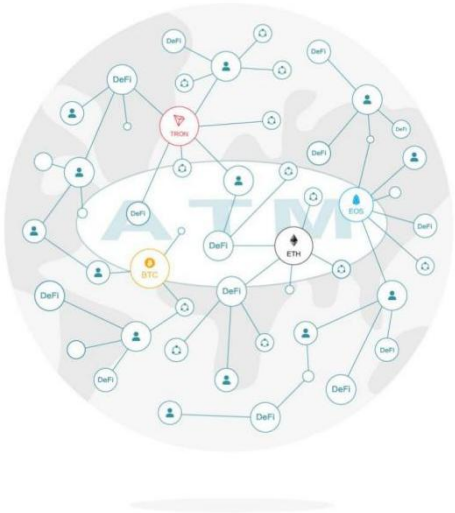

Figure4: ATM Ecosystem

3.3 Wormhole[8]

In physics, a wormhole - also known as an Einstein-Rosen Bridge - is a narrow tunnel connecting two different places in space-time directly. In ATM, "wormhole" refers to connection contracts that operate between different blockchain.Users can connect their wallet addresses on different public chains using the wormhole contract provided by ATM, and in ATMRank the addresses on the two public chains would be regarded as a single node in the relative consensus network. Through the merging of cross-chain addresses across different public chains we hope that fractured networks will instead become a single integrated community.

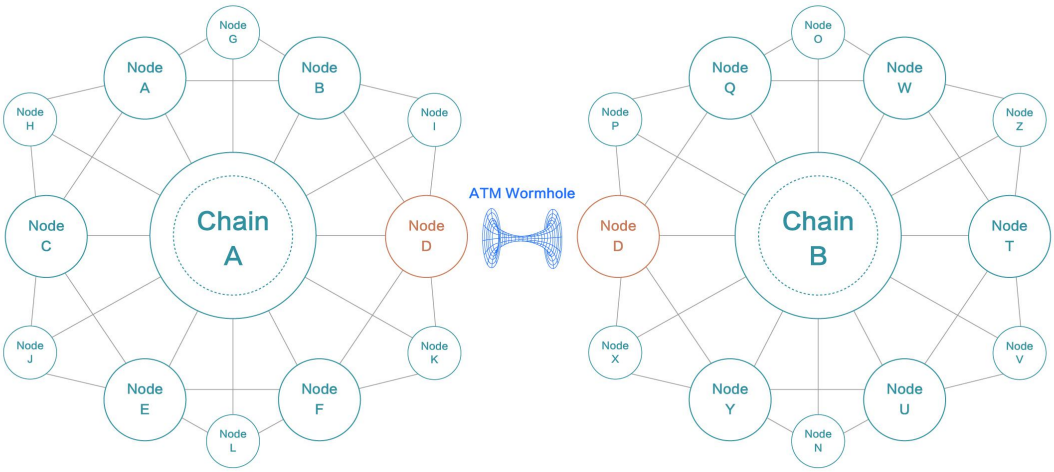

Figure5: ATM Wormhole

4. ATMRank Algorithm

4.1 PageRank Description

PageRank[9] is likely one of the most successful algorithms in the world. Used by Google, it always finds the page that a user is looking for by using the information that links webpages together and ranking them based on their influence.

When Google was founded most other search engines were using the network traffic ranking method, which was unstable and easily manipulated - this led to users being unable to find important sites.

Googles implementation of PageRank did not focus on traffic but instead the connections between webpages to rank their influence in the network – this method is naturally resistant to explicit manipulation. As such, google were at a massive advantage, and quickly became one of the most influential companies in the world.

(You can find out the specifics of PageRank here: https://en.wikipedia.org/wiki/PageRank)

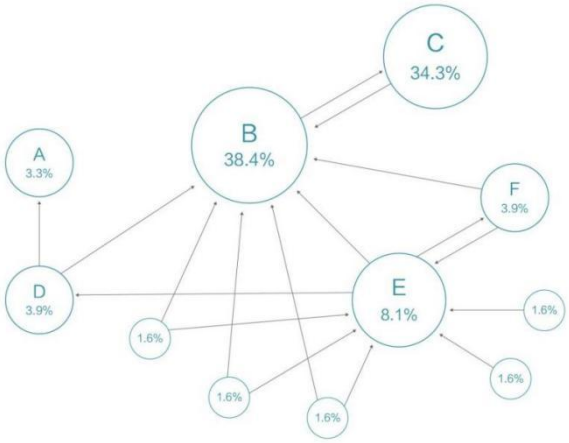

Figure6: PageRank

4.2 Parameters and Calculations of ATMRank

In the same way that PageRank uses the connections between webpages, ATMRank uses the consensus connections between users to calculate the PR value for each user in the ATM network.

You can see the differences between ATMRank and PageRank in our table below.

Parameters	**Original PageRank**	**ATMRank**
Connection Parameter	Link between webpages	Consensus Connections between users
Connection Direction	One-way	Bi-directional
Connection Strength	All links are weighted equally	Consensus Connections are weighted differently depending on parameters
Distance Parameter	N/A	Yes
Initial Connection Parameter	N/A	Yes
CurrencyCoefficient	N/A	Yes

Descriptions:

Connection Parameter: the original uses links between webpages whereas ATM uses consensus connections between users..[10]

Connection Direction: Weblinks are one-way whereas consensus connections are established by two users and as such are bi-directional. [11]

Connection Strength（S）： If you let V be the value in USD of the currency locked in a contract and P be the defined lock-up period, the connection strength[12] can be defined as follows: $S = (V^{1.1}) * \log\ (P + 1)$

Distance Parameter（D）： The shortest distance between two nodes in the network. If it is direct, the value is 1. In the case of an indirect connections, then it is set to the shortest path between them. If there is no connection between two nodes the distance is said to be infinite.

(In ATM, infinite means that the distance parameter will be set to 3 times the average distance[15] between the node with the highest PR value to other nodes in the network.)

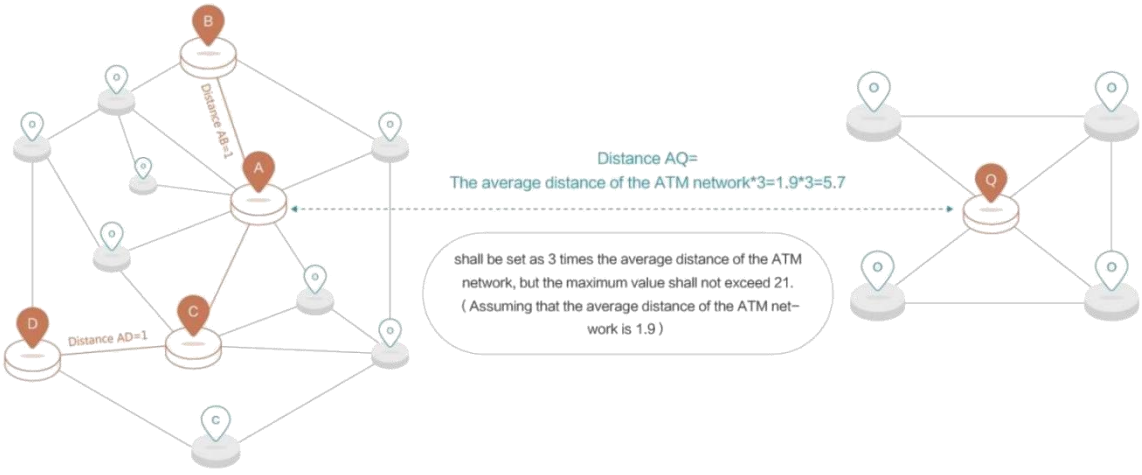

Figure7：Definition of distance

Currency Coefficient(C): The currency coefficient is simply a value associated with the currency that was used to establish the consensus contract. LUCA, for example, has a coefficient of 5.

Initial Connection Parameter (I) : When two nodes establish a connection, a number is calculated based on the previous PR value of the two nodes. Let a and b be the PR values of user A and user B establishing a new consensus contract, then initial connection parameters are b/(a+b) and a/(a+b) respectively.To prevent the initial parameters from excessively affecting the connection strength we limit the initial parameters to between 0.1 and 0.9.

When a new user joins the network their PR value is set to 1/10th of the median of all PR values in the network. If the new user establishes a connection before the PR value is calculated on that day the PR value of the new node in subsequent connections will be equal to the PR value of the node with which the connection was established for the first time.

ATM integrates the parameters in the ATMRank algorithm when calculating the connection weight. The formula for this is as follows: $S * D * C * I$. [14][15][16]

Where S = Connection Strength, D = Connection Distance, C = Currency Coefficient and I = Initial Connection Parameter.

The ATMRank algorithm will calculate the PR value of each user node according to the topology of the entire network.

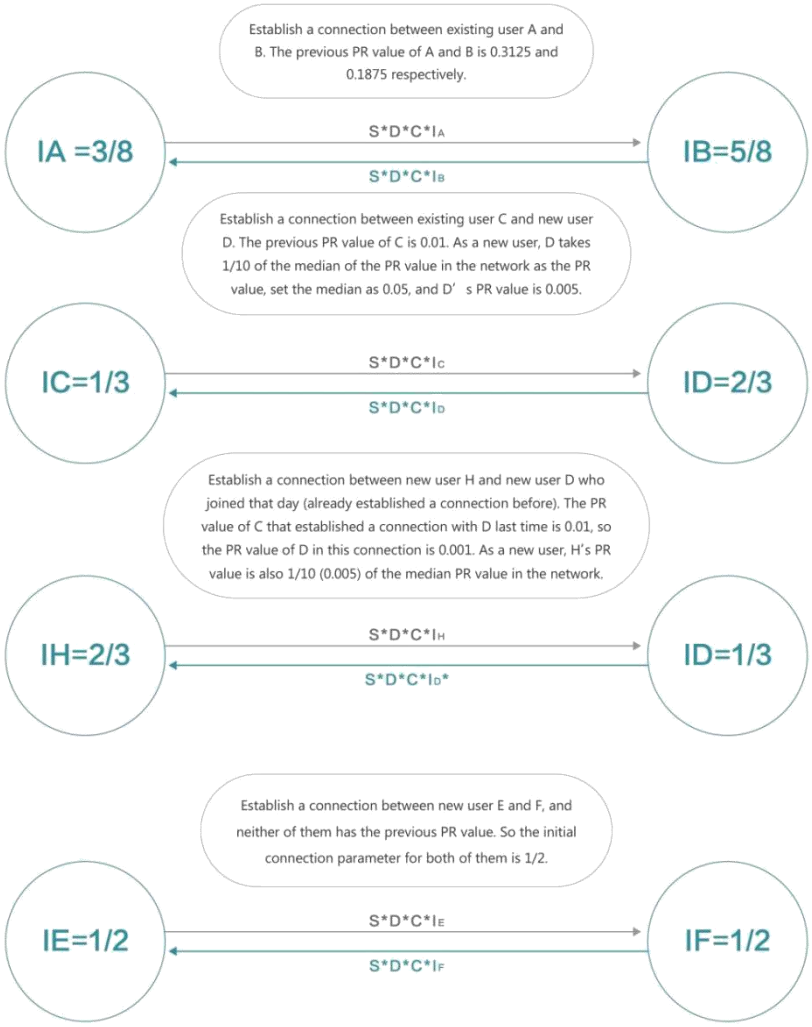

Figure8: Initial connection parameters

4.3 How does ATMRank use "Wormholes" to connect different blockchains?

By scanning the consensus contracts that are established on the public blockchains supported by ATM, the algorithm can create a network topology. From here, it looks for wormhole contracts, and then merges the nodes associated with them. From this the ATM network can be constructed, which combines multiple chains into one.

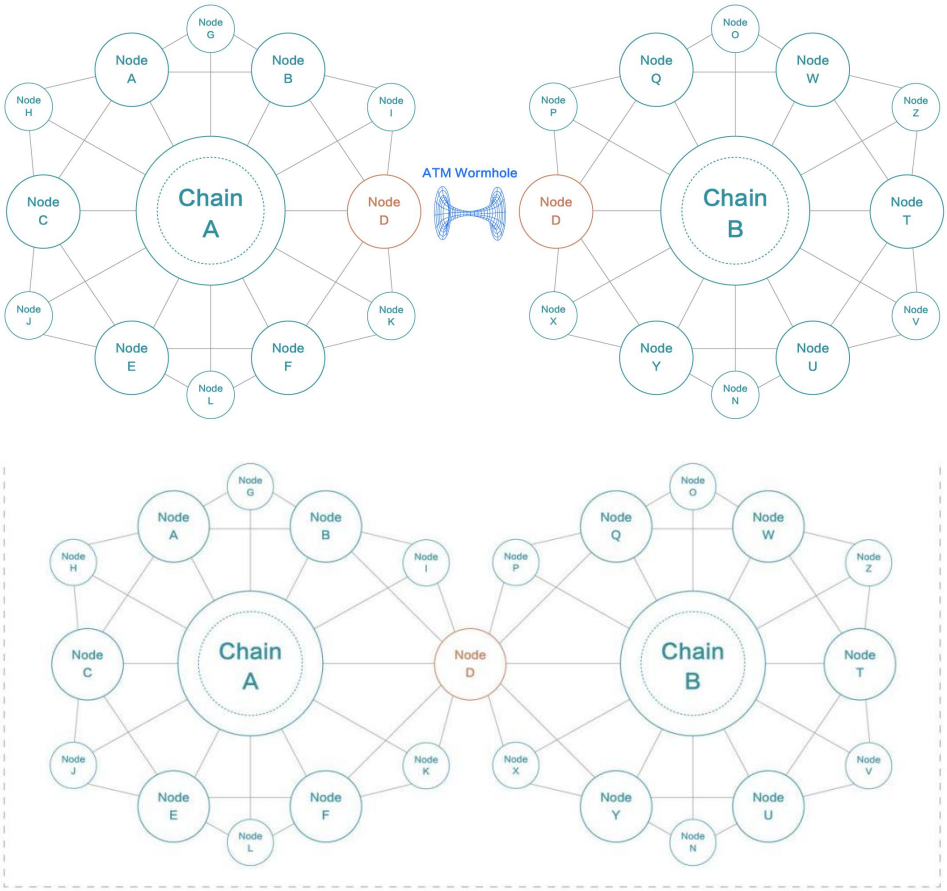

Figure9：Before and after the wormhole

4.4 ATMRank’ s Decentralized Computing System[17]

We adopted decentralized computing for the ATMRank system to ensure its fairness and security.As per ATM’ s open-source code, any user can build the ATMRank computing server and stake LUCA.The top 11 servers with the largest amount of LUCA staked jointly execute the ATMRank algorithm to calculate the daily PR values of all users in the ATM network. These 11 servers will reach consensus on the input data, and then start to make the calculation independently. The calculation result requires more than 6 servers to reach full consensus to obtain the final PR values.The algorithm will be recalculated until a consensus is reached.

5. LUCA

5.1 What is LUCA?

Figure10: LUCA

LUCA is a native cryptocurrency issued by ATM.

LUCA smart contract address: 0x51e6ac1533032e72e92094867fd5921e3ea1bfa0

Its main purposes are:

1. To reward users that establish consensus connections with one another.

2. Staking to the ATMRank server for mining purposes.

3. Used to establish the most efficient consensus connection (high currency coefficient parameter)

4. To become one of the value equivalents of the ATM community and the major currency circulating in the community.

5.2 Issuance limit of LUCA

There is no hard limit on issuance, but the rate of issuance does depend on the market price.

We call it **ATM Deflation Mechanism**: if the average price of LUCA on the day falls by n% compared to the previous day, the LUCA circulation on all ATM-supported public chains will collectively deflate by n% (LUCAs locked in the consensus contract are not affected by deflation). Therefore, the total amount of LUCA is controlled by the market price and will not be infinitely inflated; on the other hand, LUCA could be issued continuously, that will encourage users to participate in the ATM community and build long-term consensus.

5.3 LUCA Issuance plan

5.3.1 Initial Issuance:

1. The initial issuance is 15 million LUCA tokens;

2. Five million LUCAs will be distributed in the form of LUCA rewards. Users will only need to deposit a certain amount of BUSD into the ATM contract to participate in the LUCA activity. After the event, ATM will add the 5 million LUCAs and all BUSD to Pancakeswap' s LUCA/BUSD trading pair as liquidity. The total lock-up period is 2 years, and a quarter will be unlocked every six months. Users can withdraw the corresponding shares or choose to continue the stake to obtain liquidity benefits.

3. 5 million LUCAs will be used as liquidity income rewards[18] and will be distributed to users who provide liquidity for the LUCA/BUSD trading pair on Pancakeswap.

4. The remaining 5 million LUCA will be used inside a community fund. The community fund is jointly managed by community members and used for LUCA distribution, community growth, and liquidity rewards. The board that controls this fund will be made up of 47 of the community members that have the highest PR value in the relative consensus network.

5.3.2 Daily Issuance:

Starting from ATM’ s official launch date, 36,000 LUCAs will be issued daily. After 1,000 days it will change to a daily issuance of 0.1% of the LUCA locked in consensus contracts or that is staked. This is also when the ATM Deflation Mechanism will be enabled.

5.3.3 Connection issuance

85% of the daily issuance will be used for consensus connection rewards. Since the ATM consensus network exists on multiple public chains, the daily issuance needs to carry out cross-chain processing. ATM needs to allocate the daily issuance to each public chains in proportion to the PR value of all users on them, then distribute LUCA according to the proportion of each user's respective PR value.

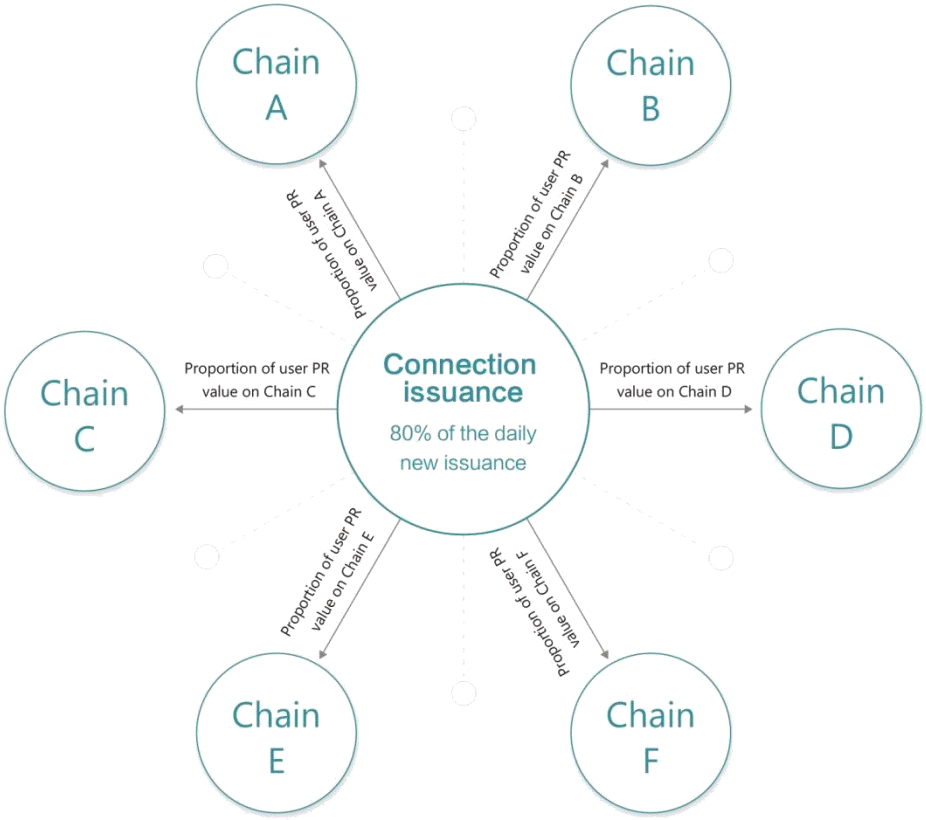

Figure11：Cross-chain Issuance

5.3.4 Staking Issuance

15% of the daily issuance will be used for staking rewards. ATMRank validators can receive 1/5th of the 15% of daily issuance, the remaining amount will be distributed according to the amount staked by a user.

Only the top 11 master node users can receive staking issuance, users who stake on the non-master nodes cannot receive staking issuance. Users can stake LUCA directly or stake LUCA that has been locked inside a consensus contract. In other words, users can use LUCA to create a consensus contract, then use the contract to initiate the staking process.

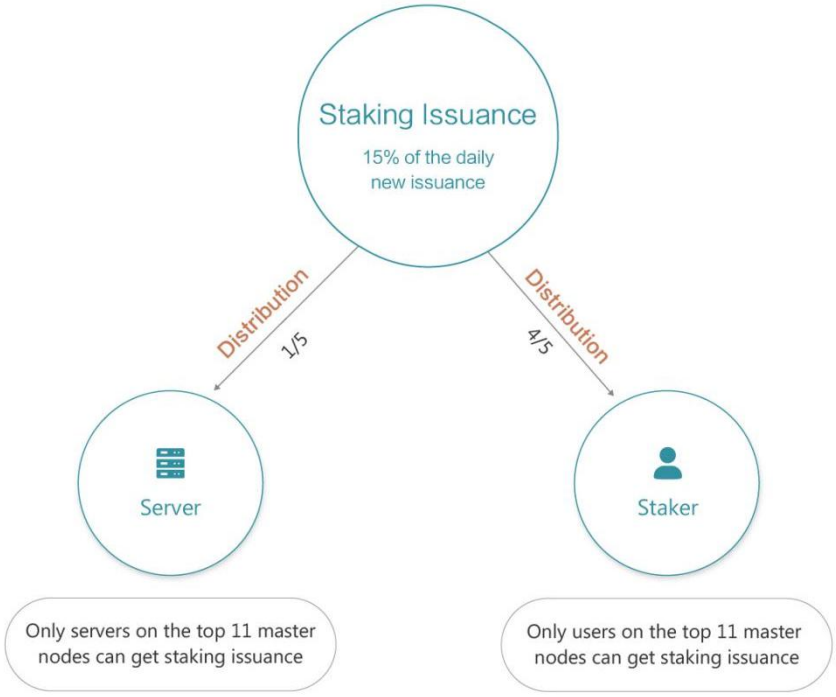

Figure12：Staking Issuance

5.4 LUCA’ s Distribution and Claim

LUCAs on each public chain will be distributed to the ATM's public deposit smart contract on the BSC chain, so users can create consensus connections and obtain benefits on multiple chains. But when users claim rewards, they need to change to the BSC chain. The rewards can be claimed at any time as long as you pay the on-chain handling fee yourself.When a user initiates a claim application, the contract will send a request to the PageRank computing group interface to obtain the number of rewards that the user can receive and record it in the contract. Once the details are recorded, the user can initiate a claim request to the contract. The contract will determine whether there is sufficient

balance based on the user’ s recorded revenue data and if the balance is sufficient the user’ s claim application will be processed.

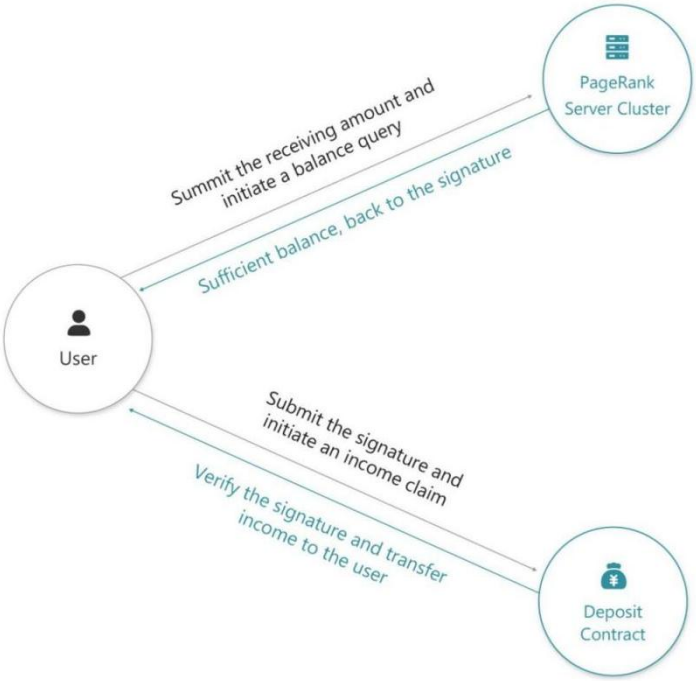

Figure13：LUCA Distribution and Claim

Note: The PageRank computing server group will calculate the LUCA issuance income of users after finishing the PR value calculations every day and save them in the group. When a user claims LUCAs, it will check the balance and provide an interface for users and third-party developers to make inquiries.

6. Community Autonomy

6.1 Underlying Technology Management

ATM is a decentralized distributed operation mechanism, which needs to be managed by users in the community, so that the ATM can constantly evolve and adapt to unpredictable environmental changes in the future. In essence, what the community manages is the mechanism of ATM itself, and all algorithms and technical architectures can evolve, if relevant proposals can be passed through vote. The community proposal function can be accomplished by the community governance token AGT. Users who hold the AGT hold voting rights.

Figure14: AGT

The full name of AGT is ATM Governance Token. AGT distribution rules: (Connection LUCAs*lock days)/100.

After users created a consensus connection with LUCA, they can receive A GT distributed by the ATM community.

After the proposal vote, community users can redeem AGT for voting on the proposals.

Different proposals are passed under different conditions: (1) In terms

of general proposals, community members can vote for or against, and the voting will conclude once the total votes exceed 1% of AGT in circulation. The proposal will pass if it receives two thirds of the vote in its favour. If the proposal fails to meet this threshold, it is deemed unsuccessful.

（2）In terms of special proposals, there is no for and against, but instead the terms of execution are laid out for community members to discuss If there is any objection during this period, the proposal will be reintroduced with modifications.

The community can vote for the executive team of the proposal, and the early proposal is executed by the ATM official development team. In later period, community users can select other teams to execute related proposals through other proposals.

6.2 Voting Mechanism and Execution

As mentioned above, the voting mechanism itself can also be evolved. The initial mechanism is as follows:

1. Users who hold 0.1% or more of the AGT supply can initiate a proposal.

2. If the proposal is approved by at least 0.5% of the AGT supply, it will enter the formal voting process.

3. At this point the technical team will give opinions on the proposal, including the estimated time & cost of completion.

4. The voting will end once the total votes reach 1% of AGT in circulation.

5. If the proposal receives two thirds of the vote in its favour, it is

considered approved.

6.3 Common Proposal

1. Adding Public Chains

When ATM develops to a certain stage, community users believe that it is necessary for ATM to add new public chain support to improve the efficiency of ATM contract usage and expand the influence of the ATM community, community users can approve proposals to add new public chain support and expand to a wider ecosystem for ATM.

2. Supported Currencies

The ATM consensus contract can support multiple digital currencies. Community users can initiate proposals to increase more supported currencies in the ATM consensus contract.

3. Currency Coefficient Management

If community users find that the existing currency coefficient is not beneficial for the community development and users, or the original currency coefficient cannot satisfy the needs of the community, they can initiate a proposal to modify the currency coefficient for the currencies already supported by ATM.

4. Candy Fund Pool Management

Whether to accept other currencies placing their candy into the ATM candy fund pool together with LUCA to be used as a reward for establishing a consensus contract.

6.4 Community Fund Management

The community fund account has an initial reserve of 5 million LUCAs, and the community fund will be jointly managed by community users and used for LUCA distribution, community growth, liquidity rewards, etc.

Through proposals and voting, funds in the account can be used for technology development and maintenance, investment in other projects, even for acquisition of DeFi applications or relevant companies (if it is an acquisition of a company, the company needs to be community-based). On the contrary, extra revenues from community projects will be used to purchase LUCA to deposit into the ATM community fund account.

The private key of the foundation wallet is jointly kept by board members of the foundation. The foundation management board is composed of 47 users with the highest PR value in the community. Only with the signatures of more than half of the board members can the fund be used. If a foundation member is inactive for a long period, it will be automatically disqualified by the algorithm to avoid having a zombie manager, at the same time the next user with the highest PR will take his place.The board of directors has only executive power, and the final decision-making power belongs to all members of the community. The ATM community is jointly maintained and developed by all members of the community and the board of directors of the foundation, so that the ATM ecosystem will enjoy a sound growth and play a greater role!

7. ATM Multichain and Cross-chain

7.1 ATM Multichain Development

The ATM community will connect Matic, Ethereum, Secret, Avax, and other multichains, and implement multichain support for consensus contract and PR node stake, as well as the cross-chain transfer of LUCA and AGT. Multichain development will expand the scope of development for the ATM community and meet the needs of community users for other chains while increasing user income and enriching the community ecosystem.

7.1.1 Connecting the MATIC (Polygon) Chain

ATM connects and opens up the Matic chain to realize ecosystem interconnection. ATM community users can create consensus connections and obtain benefits on the Matic chain.

7.1.2 Connecting Ethereum mainchain+Secret chain+Avax chain

The Ethereum chain is the basis for the development of many blockchain platforms, and it has a large number of users. Connecting to the Ethereum chain can not only provide the ATM ecosystem with better development opportunities, but also gain a lot of users and make the consensus connection stronger. Secret has a mature social platform and numerous blockchain users. Connecting to the Secret chain can better realize ecosystem interconnection, promote value circulation and information exchange, and maximize benefits. Avalanche utilizes disruptive consensus protocol architecture that enables

transactions on the chain to be confirmed within a second, while also supporting the entire Ethereum development kit. This consensus enables distributed ledgers to achieve a high decentralization, high concurrency processing, and quick transaction confirmation, thus making history cut and on-chain governance available.

7.1.3 ATM Mainchain Development

ATM will develop the ATM mainchain, and deploy LUCA, AGT, and other mainstream currencies on the chain. Meanwhile, AGT will serve as the main currency of the ATM chain and assumes the following roles:

（1） Transaction: AGT can trade other cryptocurrencies on various exchanges, depending on the restrictions set by the exchange;

（2） Transaction fees: AGT can be used to pay the transaction fees on the ATM chain, and users can also get discounts;

（3） Community voting rights: Holding AGT is equivalent to holding the voting rights of the ATM community.

The ATM mainchain will act as a blockchain network independently run by the ATM platform, and carry out a series of technological development according to the needs of the community to connect the upstream and downstream ecosystem, and realize the circulation and supplement of applications, values and even ecosystem with other multichains. Through continuous improvement and evolution, a stable and diverse ATM community ecosystem is finally created.

7.2 Cross-chain

Cross-chain is an asset cross-chain service that enables users to transfer their assets to other chains. ATM develops cross-chain functions according to user needs. This is not only to meet the cross-chain transfer needs of users. More importantly, with the help of cross-chain technology, it strengthens information and value exchange between ATM and other public chains, diversifies the ATM community ecosystem, and creates more possibilities for the development of future community functions.

7.2.1 Cross-chain Transfer of LUCA and AGT

With the gradual development of ATM multichain connection, the cross-chain transfer of community token -- mainchain token of LUCA and ATM -- AGT is also being simultaneously developed. The launch of the cross-chain function of LUCA and AGT will mean that users can receive rewards on the BSC chain, transfer assets to other chains through cross-chain function, and execute actions such as consensus connection creation, PR node stake, and asset investment.

7.2.2 Monkey App Wallet Rolls Out Currency Cross-chain Function

The currency cross-chain approach of Monkey App Wallet is similar to cBridge. The cross-chain process is decentralized. Building a decentralized cross-chain bridge is a relatively complex process, and we will design and develop the cross-chain process, relay service model, user liquidity management, project governance, project economic model, project fund security, and other aspects.

In this cross-chain approach, liquidity is provided by the user, so the project owner does not need to prepare large sums of money, but it needs to face greater security challenges.

8. Appendix

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