



JACKAL Protocol Economic Paper

Jackal Labs

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5 INFLATION

1 Tokenomics

This document will detail the economic structure of Jackal. All amounts are expressed in \$JKL unless otherwise specified. The \$JKL token is an inflationary token and has four main functions: to be used for governance, storage provider incentivization, validator incentivization, and access to Jackal Protocol applications.

2 Governance

Jackal Protocol is an L1 blockchain on the Cosmos IBC and subject to governance by the holders of \$JKL. Proposals towards Jackal Protocol cost \$JKL. Governance of the is consistent with all other IBC governance models otherwise.

3 Storage Provider Incentivization

Jackal Protocol is supported by Jackal Storage Providers that supply storage space and support file retrieval. As this peer-to-peer network is paramount to the success of the Protocol it is vital to incentivize storage provider to maintain the network. Storage providers are rewarded with \$JKL in return for storing data and participating in Jackal Proof of Persistence. Of the total block rewards at genesis approximately 60% is allocated to storage providers.

4 Applications

Along with its flagship storage product, Jackal Protocol consists of decentralized applications. Various development teams may choose to allow access to their application with \$JKL. Although many access methods are available, using the native token may result in an overall discount.

The Jackal Protocol is ultimately embedded in the Cosmos Ecosystem. The Protocol reflects this by using other tokens as access at genesis. Jackal Protocol applications Users may choose to use \$ATOM or \$USDC to interact with the Protocol. In the future there will be the possibility of adding more tokens to diversify the Protocol's user base.

5 Inflation

The Jackal Protocol is an L1 blockchain on the Cosmos IBC. However, this chain is built differently in the sense that typical inflationary tokenomics will not be applied here. As storage providers and validators need to be incentivized and various burn mechanisms will need to be in place, the somewhat unreliability of strict validator inflation would be suboptimal.

There is no hard cap on the JKL token supply, making JKL an inflationary token.



5 INFLATION

The primary functions of the JKL token are to incentivize the peer-to-peer network and consensus validators. Without block rewards, eventually, there will be no tokens to incentivize the network. Lacking this incentive, Jackal can't have a robust and healthy decentralized protocol. Inflation is distributed through storage providers, and validators.

The genesis inflation will be approximately 53% and declining asymptotically annually. With the initial supply of 100,000,000 this will produce approximately 52,560,000 new \$JKL in the first year. Token distribution is as follows in the first year. This distribution will change subject to future economic needs of the protocol determined by governance:

Table 1: Inflation Distribution

Allocation Topic	Distribution Percentage	Token Allocation
Mining Rewards	60%	31,536,000.00
Staking Rewards	40%	21,024,000.00

Table 2: Genesis Inflation Schedule

Year	New \$JKL Minted	Total Supply	Projected Inflation	Minted Tokens/Block
I	52,560,000	152,560,000	53%	10
II	47,304,000	199,864,000	31%	9
III	42,048,000	241,912,000	21%	8
IV	36,792,000	278,704,000	15%	7
V	31,536,000	310,240,000	11%	6
VI	26,280,000	336,520,000	8%	5
VII	21,024,000	357,544,000	6%	4
VIII	15,768,000	373,312,000	4%	3
IX	10,512,000	383,824,000	3%	2
X	5,256,000	389,080,000	1%	1



5 INFLATION

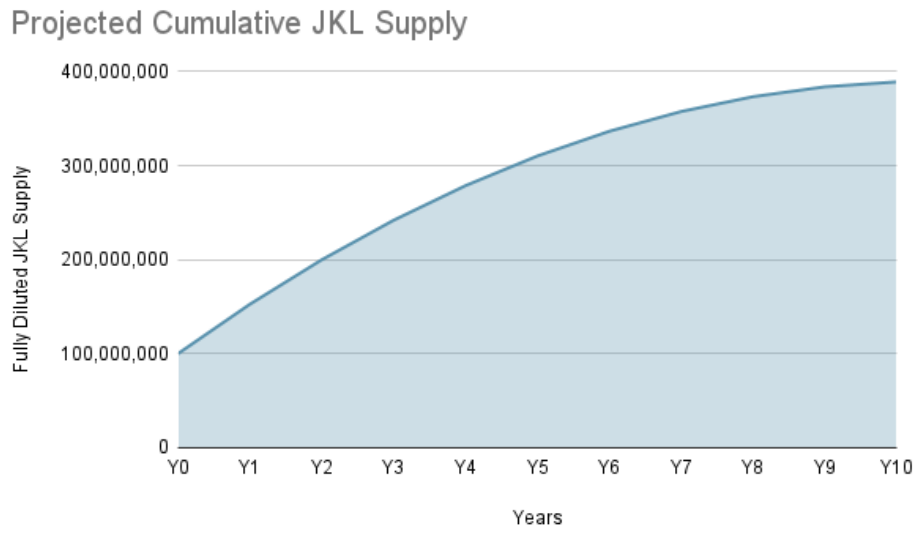


Figure 1: Projected Cumulative JKL Supply

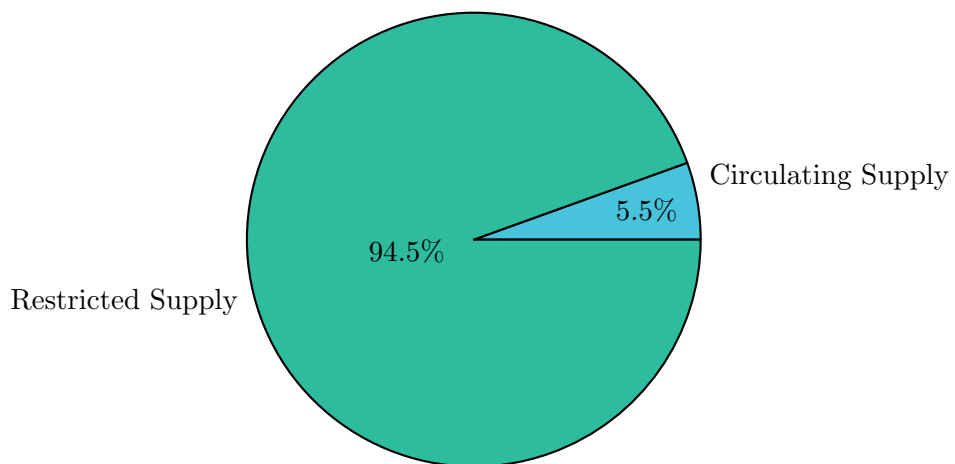


Figure 2: \$JKL Launch Circulation



6 TOKEN DISTRIBUTIONS

6 Token Distributions

Group	Launch Circulation	Vesting Total	Year 1 Total Vested	Year 2 Total Vested	Year 3 Total Vested	Year 4 Total Vested	Launch Allocation
Development Entity	24,900,000	24,900,000	6,225,000	12,450,000	18,675,000	24,900,000	24.9%
Core Employees & Contractors	4,100,000	4,100,000	1,025,000	2,050,000	3,075,000	4,100,000	4.1%
Pre-Seed Funding	1,000,000	1,000,000	500,000	1,000,000			1%
Seed Funding	7,500,000	7,500,000	3,750,000	7,500,000			7.5%
Advisors	2,000,000	2,000,000	500,000	500,000	500,000	500,000	2%
Airdrop	5,000,000						1.67%
Dex Liquidity	500,000 ¹						0.5%
Launch Expenses & Incentivized Testing	500,000						0.5%
Grants and Bounties	17,000,000	17,000,000	5,666,666.67	11,333,333.33	17,000,000		17%
LP Rewards	15,000,000						15%
Fundraising Remainder	10,000,000						10%
Community Pool	12,500,000	12,500,000	4,166,666.67	8,333,333.33	12,500,000		12.5%
Total	100,000,000	69,000,000					100%

Table 3: Token Distributions

¹As time comes closer to provide liquidity on various decentralized exchanges the community will be notified as to which exchanges will be used and how much they are incentivized.



7 THE AIRDROP

7 The Airdrop

The triple snapshot to Juno Network, Cosmos Hub, and Secret Network stakers was completed on 4/9/2022 at 1pm EST and took around 24 hours to come to download all the data. The following algorithm and data were used to airdrop amounts for these stakers:

Chain	Eligible Wallets
Secret	25,694
Juno	79,473
Atom	190,337
Total	295,504

Table 4: Airdrop Chain Spread

7.1 Airdrop Formula

The airdrop formula is a clustered stepwise logarithmic function with lower and upper boundaries. We'll break this down.

- Clustered-This means that each chain is broken down into subgroups (or clusters) of tokens by the amount staked. For example, the minimum amount staked is its own cluster.
- Stepwise-This means that clusters are not continuous. So, moving from one cluster to another means that there is an incremental number of tokens moving from one cluster to another.
- Logarithmic- This function ensures an asymptotic cap when nearing the top of a certain cluster.
- Lower and upper boundaries- this simply means that there is a minimum amount staked needed to receive the airdrop as well as a whale cap.

The following tables can be used to calculate the approximate amount of \$JKL received when the corresponding staked amount of each token.

7.1.1 Secret Network Chain

Amount of \$SCRT Staked	Approximate Amount of \$JKL Received
20 (minimum)	0.74
$20 < x < 100$	$(x + \frac{\log x}{2}) * \frac{1666666*0.0015}{65153}$
$100 < x < 999.9$	$(x + \frac{\log x}{2}) * \frac{1666666*0.0016}{65153}$
$999.9 < x < 9999.99$	$(x + \frac{\log x}{2}) * \frac{1666666*0.0017}{65153}$
$9999.99 < x < 24769$	$(x + \frac{\log x}{2}) * \frac{1666666*0.0018}{65153}$
$24769 < x$	1221.34

Example: For example, if I have 50 \$SCRT Staked I can expect around $(50 + \frac{\log 50}{2}) * \frac{1666666*0.0015}{65153} \approx 1.95$ \$JKL tokens. ²

²If you are staking on the Jackal Validator you can multiply the airdrop reward by 2.



8 GOVERNANCE

7.1.2 Juno Network Chain

Amount of \$JUNO Staked	Approximate Amount of \$JKL Received
10 (minimum)	0.76
$10 < x < 100$	$(x + \log x) * 0.07$
$100 < x < 999.9$	$(x + \log x) * 0.071$
$999.9 < x < 9999.99$	$(x + \log x) * 0.072$
$9999.99 < x < 29159.25$	$(x + \log x) * 0.073$
$29159.25 < x$	2304.42

Example: For example, if I have 50 \$JUNO Staked I can expect around $(50 + \log 50) * 0.07 \approx 3.618$ \$JKL tokens.

7.1.3 Cosmos Network Chain

Amount of \$ATOM Staked	Approximate Amount of \$JKL Received
10 (minimum)	0.327
$10 < x < 100$	$(x + \log x) * 0.02979$
$100 < x < 999.9$	$(x + \log x) * 0.03$
$999.9 < x < 9999.99$	$(x + \log x) * 0.0305$
$9999.99 < x < 29999.99$	$(x + \log x) * 0.0307$
$30000 < x$	973.54

Example: For example, if I have 50 \$ATOM Staked I can expect around $(50 + \log 50) * 0.02979 \approx 1.54$ \$JKL tokens.

8 Governance

Jackal Protocol will be an L1 blockchain on the Cosmos IBC and will be subject to governance by the holders of \$JKL as well as follow the typical Cosmos SDK governing model. The cost of making a proposal will be 1000 \$JKL. There are 5 different types of proposals. In accordance with the Cosmos SDK gov module as described in the Cosmos Whitepaper, governance is done on-chain. Holders of the tokens can vote on proposals with a 1:1 bias, this means that if I have 10 \$JKL, my vote is worth $\frac{1}{2}$ the vote of someone who is holding 20 \$JKL. Anyone can submit proposals, these proposals can be defined into 5 types.

- **Text Proposal:** A simple proposal that does not alter any source code such as opinion polls.
- **Software Upgrade Proposal:** Validators update their software according to the specifications laid out in the proposal.
- **Community Pool Spend Proposal:** If accepted, the proposed amount enters the proposer's wallet.
- **Parameter Change Proposal:** Parameters of the network are changed such as the max validator count.
- **Cancel Software Upgrade Proposal:** A vote to cancel any software update in the event that there is an update set to release that wasn't proposed in the community governance.



9 REVENUE DISTRIBUTION

8.1 Validators & Delegations

During the voting period, any \$JLK holder is permitted to vote on a proposal with their current holding amount as the voting weight. If a holder chooses not to vote, all of the \$JLK they have delegated is under the control of the validators they are delegating to. For example, if I have 20 \$JLK delegated to ValidatorA, and 50 \$JLK delegated to ValidatorB, ValidatorA can vote with my 20 \$JLK weight, as such ValidatorB can vote with my 50 \$JLK unless I vote on the proposal myself. In the case I choose to vote, the combined 70 \$JLK is used to vote on whatever my personal choice was and the 70 \$JLK is removed from their voting power for that particular proposal.

9 Revenue Distribution

The \$JLK token is a value accrual token for all decentralized applications on the Protocol. Once revenue is generated, \$JLK tokens are either burned, redistributed, or a combination of both relevant to the economic relevant needs of the protocol.

9.1 Genesis Liquidity

Upon genesis there will be liquidity provided on the Osmosis decentralized exchange to begin trading and arbitrage. Initially there will be two pools each consisting of a \$JLK trading pair and \$ATOM and \$OSMO respectively.

9.2 Jackal Swap

Jackal Protocol will include an automated market maker (AMM) which provides three functions. The primary goal of this AMM is to avoid the use of a price oracle as we believe that arbitrage methods of the tokens that provided on the AMM will have a more accurate price locally on the AMM as well as globally across the market with fewer security flaws. The secondary goal is to provide ease of user experience on the Jackal platform so that users can swap between assets from the dashboard and wallet. The third function is to provide arbitrage opportunities above and beyond the use of initial price matching so that users have the potential to swap and earn rewards on this platform.



9 REVENUE DISTRIBUTION

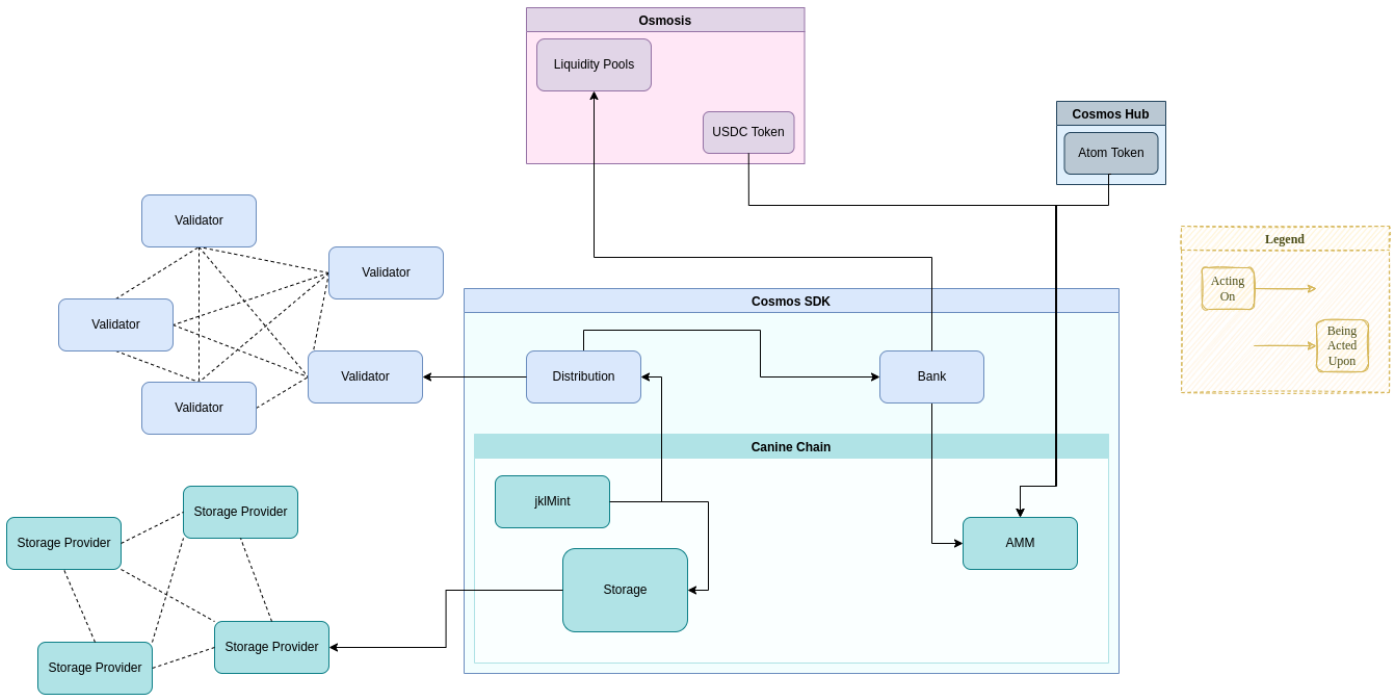


Figure 3: Revenue Distribution



REFERENCES

References

- [1] PancakeSwap. *PancakeSwap Emission Rate*.
<https://docs.pancakeswap.finance/tokenomics/cake/cake-tokenomics>
- [2] Helium. *The Helium Consensus Protocol*.
<https://docs.helium.com/blockchain/consensus-protocol>
- [3] Apollo Protocol. *Apollo Tokenomics*.
<https://www.loop.markets/apollo-tokenomics-article/>
- [4] Badger Protocol. *Badger*.
<https://badger.com/products/badger>
- [5] Pylon Protocol. *Introducing Pylon Protocol*.
<https://medium.com/terra-money/pylon-protocol-e2a622ac553e>
- [6] Terra Protocol. *How the Terra Protocol Works*.
<https://docs.terra.money/docs/learn/protocol.html>
- [7] Secret Network. *Gray Paper*.
<https://scrt.network/graypaper>
- [8] Shade Protocol. *An Array of Connected Privacy-Preserving DeFi Applications*.
https://shadeprotocol.io/pdf/Shade_Protocol_Whitepaper.pdf
- [9] Filecoin. *Engineering Filecoin's Economy*.
<https://filecoin.io/2020-engineering-filecoins-economy-en.pdf>
- [10] Cosmos. *Cosmos Whitepaper*.
<https://v1.cosmos.network/resources/whitepaper>



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- (a) does not have any tangible or physical manifestation, and does not have any intrinsic value (nor does any person make any representation or give any commitment as to its value);
- (b) is non-refundable and cannot be exchanged for cash (or its equivalent value in any other digital asset) or any payment obligation by the Company, the Distributor or any of their respective affiliates;
- (c) does not represent or confer on the token holder any right of any form with respect to the Company, the Distributor (or any of their respective affiliates), or its revenues or assets, including without limitation any right to receive future dividends, revenue, shares, ownership right or stake, share or security, any voting, distribution, redemption, liquidation, proprietary (including all forms of intellectual property or licence rights), right to receive accounts, financial statements or other financial data, the right to requisition or participate in shareholder meetings, the right to nominate a director, or other financial or legal rights or equivalent rights, or intellectual property rights or any other form of participation in or relating to JACKAL, the Company, the Distributor and/or their service providers;
- (d) is not intended to represent any rights under a contract for differences or under any other contract the purpose or pretended purpose of which is to secure a profit or avoid a loss;
- (e) is not intended to be a representation of money (including electronic money), security, commodity, bond, debt instrument, unit in a collective investment scheme or any other kind of financial instrument or investment;
- (f) is not a loan to the Company, the Distributor or any of their respective affiliates, is not intended to represent a debt owed by the Company, the Distributor or any of their respective affiliates, and there is no expectation of profit; and
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11 CHANGELOG

11 Changelog

- Changed: Reformatted formulas in airdrop calculation tables.
- Added: Examples of calculations in airdrop tables.
- Added: Changelog.
- Fixed: Typos.
- Fixed: Made document easy on the eyes.
- Changed: Instances of the word DAO and changed them to Protocol
- Added: Information about the AMM
- Changed: General information about the tokenomics

