

Telos Whitepaper

A sustainably decentralized EOSIO network

by Douglas Horn

TELOS – THE ULTIMATE PURPOSE OF A THING. (FROM GREEK ΤΈΛΟΣ)

"The telos of an acorn is to become an oak tree."

– Aristotle.

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The Telos Project

A sustainably decentralized EOSIO network

The Eos system offers an amazing promise of a new economy. Unfortunately, high centralization undermines this promise. Just 1.6% of Eos holders own 90% of the tokens. The token ownership, governance, and block producer selection are all compromised by the existence of massive "whale" addresses that can push Eos in any direction they want without regard to the majority of token holders, developers, or even the overall health of the network.

Telos is an alternative network based on the same EOSIO code that aims to solve the key problems of Eos. The Telos network offers:

1. Economic decentralization – No whale addresses
2. Equitable pay structure for block producers and standbys
3. DApp developer-friendly with proprietary DApps and lower cost deployment
4. Additional token holder protection and pre-activation resolution of stolen tokens

"The EOS dream will not come true until it fixes its centralization problems."

– Juan M. Villaverde, Weiss Ratings

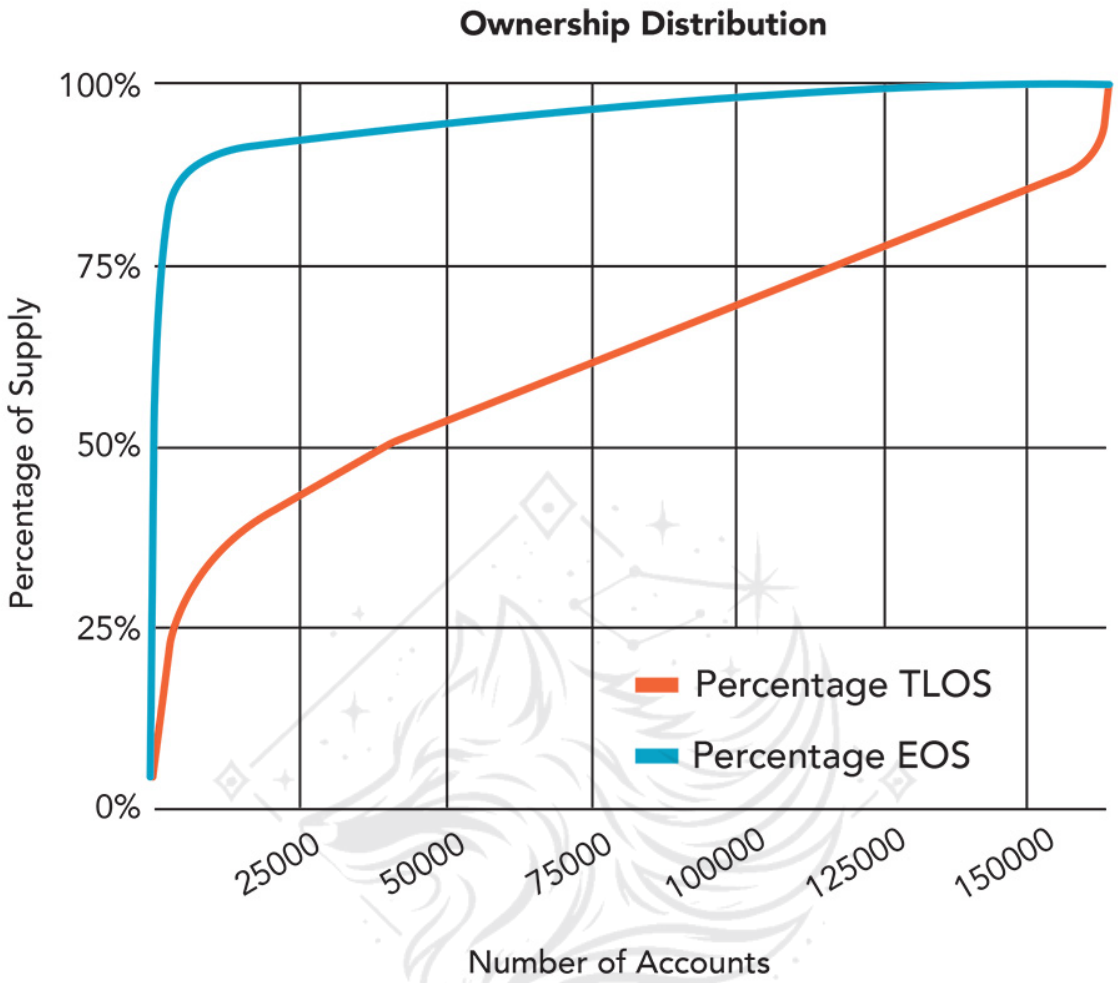
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The Telos Blockchain

Telos forks EOSIO code into a new blockchain and updates the following elements:

- Remove the extreme economic power of a small number of "whales" by capping the value of every address in the genesis snapshot at 40,000 Telos (TLOS) tokens.
    - Eliminates whales' control of block producer selection and token holder voting.
    - Exchanges will be given a process for petitioning to have TLOS tokens created for their EOS owners at the time of the snapshot, provided that they agree to list TLOS and distribute tokens, capped at 40,000 per account holder.

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- Revise block producer (BP) and standby pay model to better secure the network.
    - A fixed 21 block producers plus 30 standbys based on voting.
    - Equalize pay among block producers and standbys. All BPs will be paid the same amount and all standbys will be paid 50% the BP rate.
    - Standbys will rotate into block production for a short time on a regular basis (every 3-7 days) to earn their pay and prove that they are ready to produce.
    - Active BPs that fail to produce 180 blocks in a row will be temporarily replaced by a standby BP (after 30 minutes vs. 3 hours under Eos rules).
    - Active BPs and standby BPs are penalized for missed blocks.
    - This model will reduce incidence of network pauses due to 6 or more BPs becoming inactive.
    - Active BPs and standby BPs will have a clear minimum requirement in terms of information disclosure, practices, and hardware/connectivity – any that do not meet minimum will be prevented from serving regardless of voting.
    - Statistics on BP/Stand-by performance will be published to empower voters towards electing more reliable BPs.

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- Telos code review/testing
    - The block producers or a body elected by them will review code for security and value.
    - New code releases will be live tested on a private testnet maintained by all block producers and standbys prior to mainnet deployment.
    - Block producers and standbys will coordinate updates based on private testnet results.

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- Telos DApp developers may designate original code portions of their DApps to be proprietary or open source. (All Eos DApps must be open source which will limit participation by many potential developers.)

- Telos will reduce annual inflation to 2.5% compared to 5%.

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- Once activated, Telos addresses will not be destroyed after 3 years of non-use. This feature of Eos is unfair and unnecessary and will not be implemented in Telos. However, genesis Telos accounts created by the Eos genesis snapshot must be used at least once by their owners within one year to opt in to the system or they will be removed.

Telos will be launched by a consortium of Eos block producer candidates who took part in the Eos Mainnet Launch Group (EMLG). This group is well versed in the mechanics of launching and running the mainnet since it has done so before.

We will distribute an entirely new token, TLOS, to those listed on the Eos genesis snapshot with a few modifications:

- All genesis addresses will be capped at 40,000 TLOS.

- All addresses that can prove they were stolen prior to launch will be repatriated to their true owners.

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- New tokens will be generated to create the Telos Founders Rewards Pool (TFRP) to compensate the founders and the Telos Community Rewards Pool (TCRP) to compensate community members promoting Telos, and to fund the Telos Foundation – a promotional organization for funding work important to the Telos network outside the worker proposals system.

- Exchanges can petition to have their accounts re-created by the ABPs or BPs by agreeing to list TLOS for exchange and to distribute TLOS tokens to their EOS token holders as of the snapshot, capped at 40,000 per account holder.

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Exchanges can be expected to list TLOS due to pressure from their customers who want to receive the tokens—providing a method for exchange.

The Telos network is likely to be more stable because block producers will be selected by voting from a broad community based on capability rather than a small number of whales based on affiliation. Also, block producers who fail to produce blocks will be rotated out within 30 minutes (180 missed blocks) as opposed to 3 hours. Additionally, standby block producers will be enabled and required to produce blocks every 3-7 days in order to prove they are constantly ready. This semi-regular schedule provides needed downtime for block producers to maintain and update their servers, lowering the cost of operation. It also includes more standby block producers in governance as their votes will factor into block producer voting. This approach means proven standby capability and greater network resiliency which will likely result in fewer network pauses.

Developers are likely to prefer the Telos system because they may designate some DApps as proprietary and therefore worth their development investment. The Telos network will work to lower deployment costs by keeping RAM availability commensurate with network need to reduce RAM hoarding by early participants. This should keep the cost of deploying DApps lower than on Eos. In all other ways, the Telos network will work to remain compatible with the Eos mainnet software so that DApps can be run interchangeably on either network.

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Token holders can be expected to be more engaged because their votes matter more compared to Eos, where only the whale votes really count. Analysts such as *Weiss Ratings* are likely to give higher valuations to Telos than Eos, since they have already warned about centralization as a severe problem with the Eos system and suggested limited voting of large accounts and incorporating more block producers – both of which Telos accomplishes. The TLOS token supply is expected to be between one-fifth and one-third that of EOS (200-330 million tokens) depending on exchange participation. Given all of these advantages, TLOS may come to have a greater value than EOS.

A Fresh Start with Telos

The Eos mainnet launch has revealed numerous important shortcomings of the system. We are fortunate to have learned from these. Many of these problems will be solved in time. Telos has the benefit of a clean slate to deal with these problems head on and solve the most pressing problems immediately on launch. The Telos network offers a fresh start to run the EOSIO software on a network that focuses on providing clear and immediate value to DApp developers and token holders. Ultimately, Telos may provide a testbed of innovative solutions that the EOS mainnet may adopt. For now, Telos aims to be a cost-effective, highly reliable network that users can join for free and developers can afford to deploy their DApps on.

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The Telos Advantage

Telos is a new network based on Eos. It offers many advantages over the Eos Mainnet.

For Developers

- Proprietary DApps allowed
- Lower cost DApp deployment
- Fewer network pauses
- Enhanced Security
- Public testnet operated by BPs
- Telos/Eos mainnet compatibility

For Token Holders

- Meaningful voting for all
- Higher equity per token
- Developer focus builds value
- Lower inflation
- Pre-activation resolution of stolen tokens

For Block Producers

- Equitable payout model
- Equitable voting / Inverse Vote Weighting
- Smart contract enforced block producer requirements
- Scheduled windows for node maintenance

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FOR DEVELOPERS

The Telos network exists to provide a reliable, affordable, well managed network for developers to release DApps. Telos offers the following advantages over the Eos mainnet:

Proprietary DApps Allowed

All DApp code running on the Eos mainnet **must be open source**. (Eos Constitution: Article VII) Telos will not force developers to open source their code.

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Lower Cost DApp Deployment

The Telos network will manage RAM requirements in a way that scales with actual usage. This will limit early RAM hoarding and keep the cost of deploying DApps more affordable.

Fewer Network Pauses

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The Telos network uses a block producer system that swaps all standbys into block production every 3-7 days to prove that all are capable of producing blocks whenever called on. This system also allows any block producer that is not operational to be temporarily swapped out after missing just 30 minutes (180 consecutive blocks) as opposed to 3 hours on the Eos mainnet. This reduces the risk of mandatory network pauses due to any 6 block producers becoming inactive at any given time.

Enhanced Security

Telos expands on the security of the Eos network by adding enforced minimum technical and information disclosure requirements for Telos block producers.

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All Telos block producers and standbys are required to have a node on the BP private testnet where new patches can be tested before implementation on the mainnet*. This increases network security by revealing new bugs prior to implementation and allows for better update coordination among block producers to reduce the incidents of dead chains.

(* except emergency security patches for known exploits.)

Public Testnet Operated by Block Producers

All Telos block producers and standbys are required to contribute a node to a full and open testnet identical to the Telos mainnet. This aids in app development and testing.

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Telos/Eos Mainnet Compatibility

The Telos network runs the same EOSIO software as the Eos mainnet, so DApps written for Eos can run on Telos. The primary code changes on the Telos network relate to how BPs are paid, elected, and temporarily removed from service due to noncompliance. All other differences result from genesis snapshot modifications, constitutional changes, and organizational principles.

FOR TOKEN HOLDERS

Telos tokens (TLOS) have advantages over EOS tokens:

Meaningful Voting For All

The Telos genesis token ownership caps all genesis accounts at 40,000 TLOS tokens. Telos Foundation-owned addresses cannot vote. As a result, Telos token ownership is one of the most proportionate of any cryptocurrency network. Telos members have a much more equal say in the governance of the network than Eos members.

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Higher Equity Per Token

Each EOS token represents 1/1,000,000,000 of the total value of the Eos network. Because Telos has fewer tokens, each TLOS token represents approximately 1/330,000,000* of the value of the Telos network. That is more than 3X the network ownership percentage for the same number of tokens.

(* Depending on the total number of Exchanges that activate TLOS token distribution for their EOS token owners.)

Developer Focus Builds Value

The value of any Eos-based network will ultimately reflect the network's usefulness to developers in deploying DApps. Telos offers additional value to developers through features like lower DApp deployment costs and the ability to deploy proprietary code. These features may make the Telos network more attractive and more valuable to developers over time.

Lower Inflation

Eos inflation is set at 5% per year. Telos will aim for inflation of 2.5% per year. TLOS token inflation will be as much as 50% lower than that of EOS.

Pre-activation Resolution of Stolen Tokens

The Telos Foundation and ABPs will provide a smart contract to allow any EOS holders who had tokens stolen to prove their ownership prior to Telos mainnet launch. This will return the tokens to their rightful owners and prevent additional members from unwittingly purchasing tokens that may later be frozen due to theft.

FOR BLOCK PRODUCERS

Block producers validate transactions, provide network security, and perform crucial governance roles on the blockchain. In order to attract the best possible block producers to the Telos network, we have enacted the following improvements:

Equitable Payout Model

The Telos block producer system is comprised of 21 block producers and 30 standbys, organized by rank based on user votes. Every block producer will be paid the same daily share of the Telos 1% inflation. Every standby block producer (up to 30) will receive one half the amount that the top 21 block producers receive. Every standby block producer will rotate into active block production every 3-7 days to "earn their keep" and prove that they are constantly available to fulfill their responsibilities. Block producers will be penalized for any missed blocks and statistics will be provided to Telos voters.

Equitable Voting / Inverse Vote Weighting

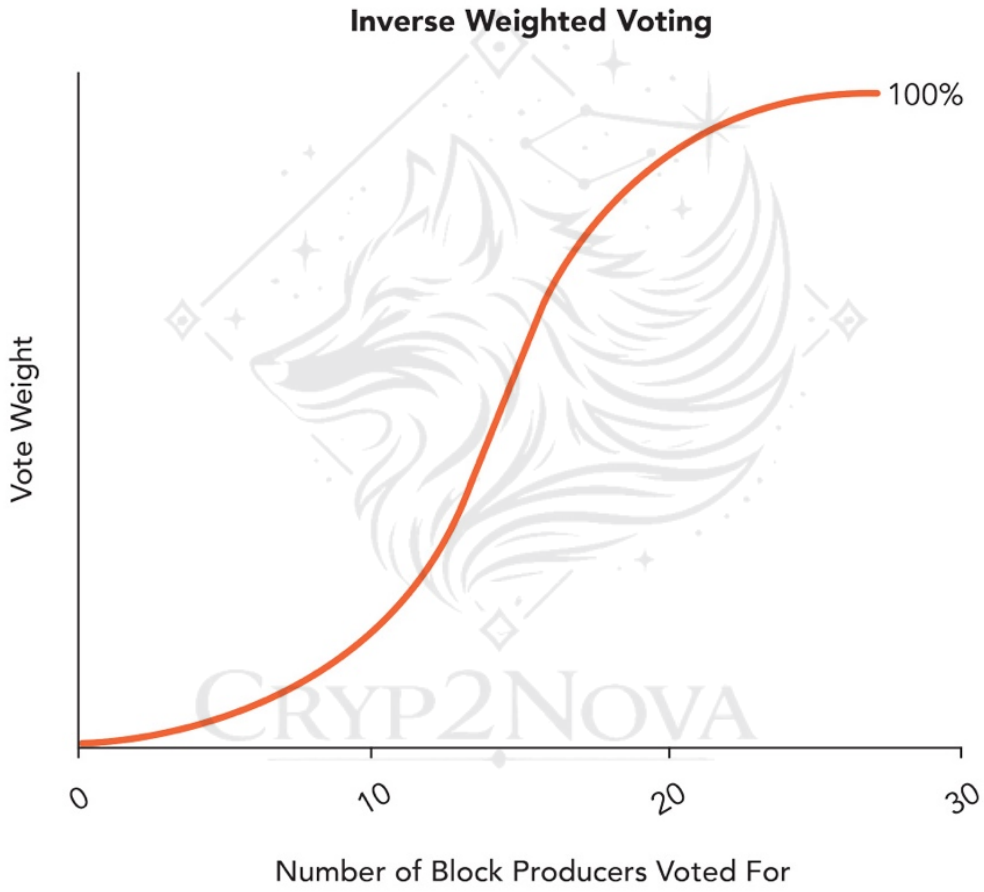
In the Eos voting system, whales can elect any block producer they choose. Voters who want to support only their own affiliated block producers can increase the value of their votes by not voting for anyone

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else—which hurts the voting system. Telos does not have whales and therefore block producers need only convince the broad collective of TLOS token holders of their strong candidacy.

Additionally, Telos block producer voting is “inverse weighted” meaning that if you only vote for 1 or 2 block producers your votes have less weight than if you vote for 30. This encourages the majority of Telos members to become more educated about block producer candidates and discourages those who seek to vote only for themselves and their affiliates.

$$Normal\ Voting \bullet \sin\left(\frac{\pi}{2} \bullet \frac{number\ of\ votes\ cast}{maximum\ number\ of\ votes\ possible}\right)$$



Smart Contract Enforced Block Producer Requirements

Telos maintains minimum standards for block producers to be eligible candidates. These standards are based on security, server capacity, information disclosure, and participation in the public and private testnet. These standards will be enforced by smart contract from the time of mainnet activation and any block producer candidate that is not in compliance will not be capable of serving, regardless of votes. All other block producer candidates will automatically rise up the block producer ranks to fill in until the minimum requirements are met.

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Regular Downtime for Node Maintenance

Standby block producers will prove their reliability by rotating into block production for several hours every 3-7 days on a semi-regular schedule. This will give primary block producers frequent opportunities to take down nodes for maintenance and upgrades. This significantly reduces the cost of operation. This system also ensures all standbys are constantly ready to fulfill their duties.

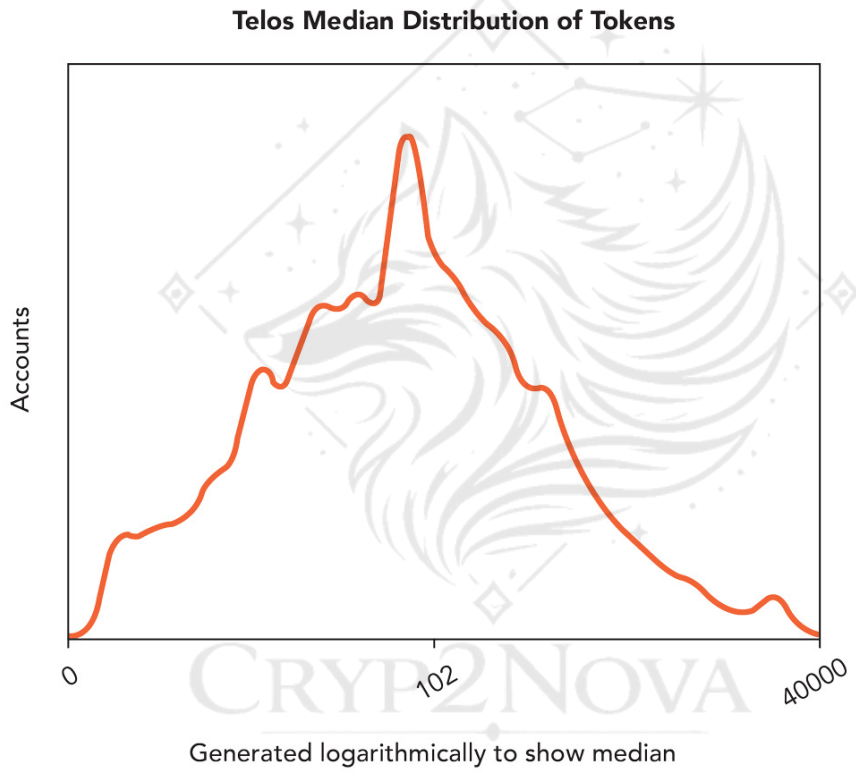
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Telos Token Distribution

Calculations & analysis by Ava Masucci

The distribution of tokens in the Eos system is one of the most concentrated of all major cryptocurrencies. Telos distribution on the other hand is one of the least concentrated of all cryptocurrencies.

- 90% of EOS tokens are controlled by just 1.6% of addresses.



A More Even Distribution

Initially capping the TLOS token amount of all Telos addresses at 40,000 radically alters the token distribution from EOS in the following ways:

- Removes 86.5 % of token supply, or 865,000,000 tokens
- Reduces the holding of just 0.67% addresses, or 1,098 individual addresses, registered at time of snapshot.
- The circulating supply is reduced from ~996,691,000 EOS to 178,473,249 TLOS tokens.

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- Assuming another 78.6% (Fibonacci level) of 178,439,249 will be added back into the money supply due to tokens created for petitioning exchanges, the supply will rise to approximately 318,753,222.

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  - An additional 13,000,000 tokens will be created for the Telos Founders Reward Pool, Telos Community Rewards Pool, and Telos Foundation creating a total money supply of approximately 331,753,222 TLOS tokens – about one-third of the Eos money supply.

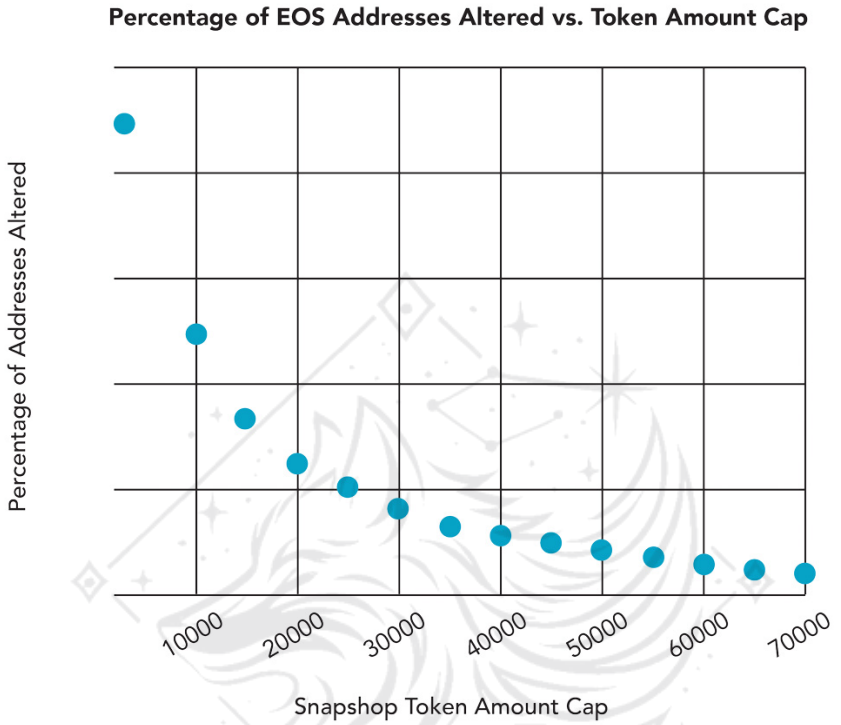
- Each TLOS token will represent ~3X the network equity of an EOS token.

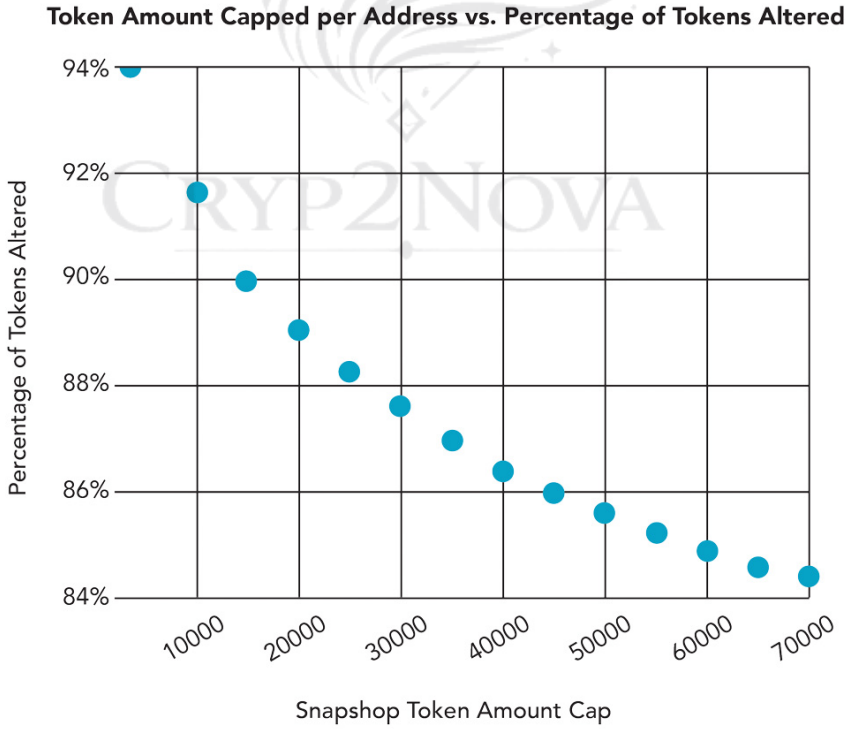
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Comparative Distribution

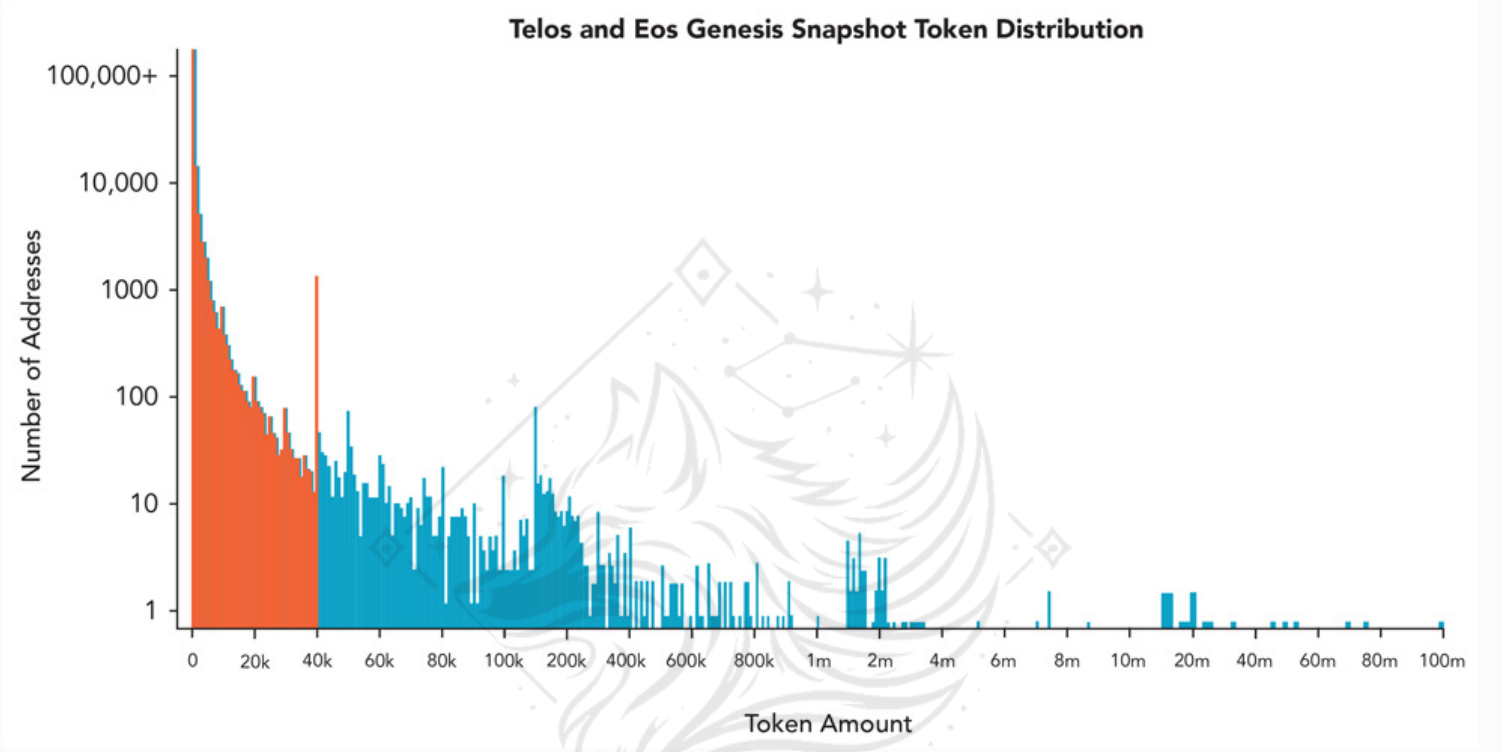
Capping the number of tokens at 40,000 per address alters less than 0.67% of registered addresses. Capping the number of tokens at a larger amount does not significantly alter the number of addresses affected.





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Capping the token amount at 40,000 alters approximately 86% of the EOS token supply. Setting the token cap to a higher number would grant a smaller number of token holders more power.



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Eos Problems, Telos Solutions

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Eos Problems and How Telos Will Solve Them

We have been closely involved throughout the Eos mainnet launch process as voting and contribution members of the Eos Mainnet Launch Group (EMLG). This has been an awesome experience and experiment in decentralized decision-making, but it is marred by problems caused by Eos centralization and requirements of the Eos sale and process. By eliminating the extreme centralization inherent to Eos, Telos will solve many of these problems. Telos has more latitude to improve the tokenomics because it is not related to Block.one and did not raise any money through an ICO or presale. As a result, the Telos network may issue new TLOS tokens in any way it determines is best for the network.

Problem: User votes don't matter – Whales run the network.

Because of the huge economic disparity within the Eos network, and because only 21 block producers are designated to run the network and receive the large reward for doing so, whale token holders control the Eos system. They can simply vote in up to 30 affiliated block producers who will follow their demands. Independent block producers can be removed by giant EOS token holders at any time.

The Eos network has already seen that some block producers affiliated with whales are failing to produce blocks, missing necessary technical planning sessions, and failing to provide important information disclosures to voters. There is a danger that these whales may simply suck a large share of the 5% annual inflation out of the Eos network while providing minimal service because their voting power makes them practically unopposable.

The Telos solution:

There are no whales in Telos. Token holders will have a meaningful vote.

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Problem: DApp developers are disincentivized from using network.

The Eos Constitution specifies that all DApps and contracts on the Eos network must be open source. While this is appropriate for many contracts, it will limit the development of commercial DApps on the network. Developers must invest heavily in each new product they create; they rely on protection of their inventions to recoup these investments. If commercial DApps must be open source, developers will instead choose blockchains where their works can be protected. Additionally, the Eos mainnet is experiencing speculation on RAM reservations which will drive up the cost of deploying DApps on the network.

The Telos solution:

The Telos network will allow some applications to be designated as proprietary. Those who have received

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funds from the network (block producers, adjudicators, code contributors, etc.) within the last 6 months must designate any DApps as open source. In order to discourage speculation and lower the cost of deploying DApps, the Telos network will release RAM in concert with its actual DApp usage.

Problem: Network pause risk.

The Eos network requires "2/3+1" consensus to operate. Without this number of block producers running, the network must be paused until 2/3+1 BPs are active. In practical terms, this means that if just 6 of the 21 active Eos BPs fail to produce blocks, then the network goes down. Standby BPs do not automatically replace missing BPs. In fact, BPs that have been voted in can't be removed for non-performance for at least 3 hours. Exacerbating this problem is the fact that Eos standby block producers are not regularly tested for their ability to step in and produce blocks. Further, there are no enforced minimum requirements for an Eos block producer. The only requirement is to receive votes. The danger is that if block producers go down, they cannot be replaced for three hours and the standbys who replace them may not be ready to fill in.

The Telos solution:

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The Telos network regularly cycles in standby block producers to produce blocks (at least once every 3-7 days for each standby). This cycling system will also temporarily replace any active block producer who has not produced blocks in 30 minutes. This system has three distinct advantages for network resiliency: nonproductive block producers will be more rapidly replaced meaning it is far less likely 6 will be down at any given time, forcing a network pause; standbys will regularly prove their readiness; block producers will receive semi-scheduled downtime to maintain and update their equipment. Further, Telos uses a smart contract and 'oracles' to enforce block producer eligibility, ensuring that every BP meets minimum technical requirements.

Problem: Standby BPs are not being properly paid and regularly tested.

Eos standby block producers are paid far less than the top 21 block producers and are rarely called upon to prove their capacity. Maintaining a top-notch node infrastructure is costly and without the need to prove their ability, standby block producers are likely to skimp on expensive improvements and maintenance—particularly because there are no enforced minimum requirements to meet. There is no ongoing mechanism for testing the readiness of standby block producers and primary block producers have no opportunities for scheduled downtime, which increases the challenges of maintaining the network. There is no way to be certain that the Eos mainnet will function properly in times of crisis.

The Telos solution:

Telos has a pool of up to 30 standby block producers selected and paid by voting rank. Standby block producers are paid half the rate of the top 21 block producers. To earn this pay, each standby will cycle into block production for a several hours every 3-7 days on a regular schedule to ensure that all paid standbys are able to step in to produce whenever needed. This scheduled rotation means that primary

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block producers have predictable maintenance windows to maintain their nodes, which lowers operational cost and increases reliability. Block producers and standbys that fail to produce blocks will be penalized. This system makes it difficult for groups to game the payment rewards system and actively discourages vote buying. Telos has minimum requirements (both technical and informational) enforced by smart contract that every block producer must meet, regardless of voting.

Problem: Eos RAM prospecting drives up the cost of deploying DApps.

The Eos network launched with much more available RAM than the system required. Prospectors have taken to reserving this RAM early, likely without the intention to use it, but only to speculate on the rising price of RAM in the future. This speculation has led to a rapid increase in the price of RAM. When the DApps arrive that need this RAM, it is likely to be priced very high which makes deploying applications on Eos unnecessarily expensive.

The Telos solution:

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Telos will launch with just 4GB of RAM. This will enable initial DApps and airdrops that people may wish to launch on the network but will not leave incentive for RAM speculation because RAM that prospectors reserve can easily be supplanted by new RAM entering the system. As a result, people are more likely to simply reserve the RAM that their expected DApps will require. Block producers will monitor DApp RAM usage and will add new RAM capacity when actual usage necessitates it. Additionally, the Telos Foundation will issue periodic guidance about what it believes is a reasonable RAM price and it may purchase RAM below that price and sell RAM above that price to limit the value of speculation. Further, any time the current price of RAM is more than 10% above the published guidance price, the Telos Foundation will sell RAM to developers at the published guidance price.

Problem: The Eos Constitution is unratified.

The Eos Interim Constitution is self-defined as incomplete and requires revision and ratification before Eos can move forward with many of its legal and governance responsibilities. This is an expression of the founder's personal values and Block.one's need to keep the blockchain at arm's length so as not to be deemed to have created a security. Due to the voting imbalances in EOS token distribution, the ratified constitution will likely support the needs of the whales over the needs of common users.

The Telos solution:

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The Telos 'constitution' is known as the Telos Network Operating Agreement (https://github.com/Telos-Foundation/tips/blob/master/TelosOperatingAgreement.md) will be valid and enforceable as written as of network launch. There is no need to wait for a revised or ratified version. Every Telos user will agree to this via Ricardian contract the first time they choose to use their Telos account. Telos users certainly have the right to amend the constitution whenever they deem this necessary. Paragraph 32 (Amending) empowers TLOS token holders to ratify or amend the constitution using the 'ratifyamend' contract that will be available upon network launch, and when this happens it is more likely to express the desires and

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aims of common Telos users. However, the network will not be deemed unratified if this does not happen immediately.

Problem: Adjudication body not prepared at launch.

Eos relies on an adjudication body to resolve all disputes. However, that body has not yet been fully formed or prepared. There are no funds provided to facilitate this. Therefore, problems such as repatriating stolen funds is a difficult one for block producers to solve.

The Telos solution:

Telos will initially resolve many judicial challenges prior to its mainnet launch. The Telos Arbitration Organization (TAO) will be ready to begin immediately. The TAO will accept the Telos Network Operating Agreement as complete and not requiring further ratification. The TAO will also have a clear and limited mandate as to which cases it can address. The Telos Foundation will initially fund the TAO so that it can resolve disputes immediately and remain free of conflict when adjudicating cases that involve block producers. Ongoing TAO funding will be paid from arbitration fees.

Problem: Eos has high inflation

Eos inflation is 5% per year. This is too much and debases the currency. At 5% inflation the money supply doubles in just 14 years. Major world economies are currently aiming for 2% annual inflation. Eos inflation is distributed 1% to block producers and with the remainder divided based on block producer votes for worker proposals. Because whales can control voting, they have the ability to drive much of this inflation to their affiliates.

The Telos solution:

Telos will keep inflation lower, aiming for 2.5% per year. 1% will still go to 51 block producers and standbys (though divided more equally among them). The remainder will go to support adjudicators, development, and other functions. Because some DApps can be proprietary on Telos, the network will not need to pay as many grants to software developers.

Problem: Eos accounts can be forfeit after 3 years

Under the Eos Constitution, any account that has not performed a transaction in 3 years is forfeit and its EOS tokens will be redistributed. Many long-term savers will be caught by this and unfairly lose their tokens. There is no method to appeal or recover tokens once lost. This is designed to protect system resources and keep people engaged with the network but it is far too draconian and seeks to solve a problem that has not been shown to actually exist.

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The Telos solution:

Telos will not have any token forfeiture in its initial Telos Network Operating Agreement. If TLOS holders choose to amend the constitution to include one it will be their choice, not something imposed upon them. Telos members whose accounts are created by the genesis will be required to access their accounts at least once within the first year after activation of the Telos mainnet to signify their opting-in to the network and its operating agreement. Genesis accounts that do not use the network within one year will be deleted.

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The Telos Foundation

The Telos Foundation exists as a promotional and funding body to advance the network and provide support to network functions that are not funded in other ways. The aim of the Telos Foundation is to provide grants to groups promoting necessary network functions that cannot or are not supported by worker proposals. Early in the life of the network, worker proposals may be difficult to fund because the process is nascent and because there is little value in the early worker proposal fund while many projects need resources. Additionally, some groups may need funds that do not come from block producers. For example, the Telos Arbitration Organization may have a conflict of interest accepting initial funding from block producers, despite the fact that this initial funding is crucially important. By having the Telos Foundation fund these processes, this conflict is averted.

The Telos Foundation also aims to add a tool to fight RAM speculation and runaway RAM prices currently seen on Eos. The Telos Foundation will publish periodic price guidance on its view of reasonable RAM pricing. When the RAM price is below the guidance price it may use funds to buy RAM to raise the price and when the RAM price is above the guidance price it may sell previously purchased RAM to help lower the price. This will help to stabilize the price of RAM away from wide swings that encourage speculation. The Telos Foundation will also provide RAM grants to small independent developers in need of RAM to deploy DApps on the network, with a preference for open source DApps. This will help ensure that new innovators are not priced out of entering the system.

The intent of the Telos Foundation is to become a perpetual grant-funding organization with different voters than the block producers. The Telos Foundation will accomplish this through presenting worker proposals to the voters to reimburse grants that have been distributed. In this way, the community can decide whether to perpetuate the Telos Foundation or wind it down.

The Telos Foundation is a decentralized autonomous organization that votes via smart contracts using the Telos Foundation Voting Token (TFVT) – a token of no value that confers voting rights to its holders. In this way, the Telos Foundation can vote to decide disbursement of funds and election of its own public representatives. Voting tokens will be distributed throughout the Telos community during launch to encourage a wide range of voices in voting, drawn from a community of developers, block producers, writers, and other prominent community members. Each will receive 1 to 3 TFVTs. New tokens will be administered quarterly to members who are making a contribution to the Telos community. Voting is performed by smart contract with a simple majority by number of tokens voted carrying.

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The Telos Foundation voters are drawn from active contributors to the Telos community—as selected by the existing Telos Foundation voters. The initial group of Telos Foundation voters will be draw from contributors to the Telos Network creation and launch. All Telos Foundation Voter Token holders will be

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publicly announced and their voting token addresses will be associated with their identities so that each voter's voting record will also be publicly recorded on the blockchain.

The Telos Foundation has no role in network governance. It does not vote its tokens or issue positions on voting matters or BP selection. Its sole functions are to provide funding to beneficial Telos projects that might otherwise go unfunded and to help stabilize the price of RAM on the network.

Areas where the Telos Foundation may grant tokens include:

- Compensation for those who contributed to the Telos launch success
- Compensation for developers of valuable tools used on the Telos network
- Initiating funding for the Telos Arbitration Organization
- Reimbursing select exchanges for the cost of listing TLOS where necessary
- Funding new tool creation
- Funding advertising and marketing for the platform
- Providing RAM grants to developers priced out of deploying by speculators
- Any other function that promotes or secures the Telos network

Many of these cases may also be funded through worker proposals. The Telos Foundation will fund proposals that its voting members feel are not adequately funded through voting proposals.

A foundation funded with tokens and entrusted with promoting the network is a common enough entity in cryptocurrency. Many blockchain projects establish ongoing funding for their project's version of the Telos Foundation. Telos has decided to leave these decisions in the hands of the block producers at any given time to best support the decentralized nature of the Telos network.

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The **Telos** Foundation

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Launching a Complete Network

Telos benefits from the lessons of the EOS mainnet launch. Some decisions made in that launch have proven to be problematic. Telos will improve on the launch by including all the tools necessary for the network to be a success.

Voting Wallets

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At Telos network launch, there will be approved voting wallets for users. Telos is working with wallet and tool developers including Scatter, Greymass, SimplEOS and Telos Lynx* to ensure that their wallets will work seamlessly on the Telos blockchain.

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Governance

Telos will have a full-force Telos Network Operating Agreement (like the EOS constitution) and all supporting governance documents upon launch addressing all areas of governance.

Referendum Process

In addition to a full-force Constitution, Telos will have a constitutional referendum process upon launch in the form of a referendum voting contract. The referendum process will be clearly described and any Telos token holder may call the contract and propose a referendum vote.

Worker Proposals Submission and Voting Process

Worker proposals are an important part of running the network. Upon Telos mainnet activation, there will be a well-documented, smart contract-based submission and voting process for worker proposals.

Arbitration Process

The Telos white paper includes an overview of the arbitration process, which is driven by a multi-party smart contract.

Arbitration Body

The Telos Arbitration Organization (TAO) will be active by the time the Telos mainnet activates. The Telos ABPs and others are actively seeking out qualified and interested personnel to lead the organization. To eliminate conflict of interest, the TAO will be initially funded by a grant from the Telos Foundation and thereafter, funded by arbitration fees and/or worker proposals.

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Block Producer Enforcement

Because elected block producers have the potential for enormous power in DPoS blockchains, it's crucial that block producers swiftly police each other for infractions that, left unchecked, could threaten network security. Decentralizing the Telos voter base is an important step but without vigilance from elected block producers, centralization could emerge.

Telos will revise the Ricardian contract included in the regproducer smart contract that a member must execute in order to register as a block producer candidate. The existing contract asks block producer candidates to agree to certain provisions, but makes no suggestion about what should be done if these are violated. As a result, there has so far been no enforcement for infractions.

The revised Telos regproducer contract will clearly state proscribed actions along with penalties for violation—such as treating transactions preferentially, and will call on all other block producers to enforce. To facilitate this, there will be a smart contract that any block producer may execute documenting alleged violations on-chain and requiring all other block producers to vote to whether or not to enforce the required penalty. If a 2/3+1 majority votes to enforce, then the smart contract will carry out the enforcement immediately. No additional action will be required.

Central Information Hub

Telos will host a variety of best-in-class blockchain tools at the TelosFoundation.io web site, giving Telos members and other interested parties a convenient hub for information. The website will be apolitical and show no favor to any block producer candidate over any other.

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(* Scatter and Greymass do not endorse the Telos project. They are working with Telos to ensure compatibility for users of their products.)

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Telos Block Producer Minimum Requirements

All Telos block producers must meet a set of minimum requirements in order to serve, regardless of the number of votes they may receive. These requirements are both informational and technical. Compliance will be enforced by smart contract or some similar process to minimize subjectivity.

Each block producer candidate will provide at a minimum:

Information:

- A telosbp.json file containing information regarding company formation, ownership, website, social media connections, key administrative contact, key technical contact.

- Server connection information for at least 300 peers.

Technical:

- Two mainnet nodes (one designated as block producer): Dedicated servers running no other processes, Intel Xeon processors with 8 cores, 128GB DDR3 ECC RAM, DDOS protection, 100Mbps internet connection with latency of under 500ms to testing node.

- Two testnet nodes (public developer testnet and private BP testnet for new software): Intel i7 processors, 16GB DDR3 ECC RAM, DDOS protection, 100Mbps internet connection.

Each block producer's compliance with the minimum requirements will be monitored by smart contracts and disinterested groups to ensure compliance. If the smart contract detects that a block producer is not in compliance it will:

- Issue a notice of noncompliance to the block producer

- After 24 hours, prevent the block producer from serving
    - All block producer votes will remain intact
    - As soon as the smart contract detects that the block producer is compliant again for 1 hour, it will become eligible to serve and will return to the rank dictated by the votes it has received.

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- If a block producer has remained out of compliance with the minimum requirements for more than 15 days, it will be unregistered as a block producer and will need to run regproducer again.

- Compliance with some elements that cannot be verified by smart contract will be ensured through drafting of the Ricardian contract included in the regproducer contract that each block producer candidate must call.

    - This contract will clearly list actions that block producer candidates are prohibited from taking clearly linked to penalties that all other block producers must implement swiftly or be deemed in violation as well.
    - Strongly linking infractions and commensurate outcomes within the regproducer contract will allow swift and decisive action by other block producers, which is currently lacking in EOS mainnet governance.

It is the intent of the Telos ABPs that these minimums serve to keep block producers responsive. These minimum requirements are intended to be revised from time to time by a 2/3+1 vote of block producers. However, it is important to note that the Telos network is decentralized with no owners, managers, or fiduciaries and no system of governance outside the votes of block producers elected by the token holders. Future block producers are encouraged but by no means required to abide by any intent stated by the ABPs.

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Block Producer Pay

Block producers are a crucial component of any EOSIO network. There are 21 block producers validating the network at any time. There are also a number of standbys with the goal of being able to step in at any time to maintain network security should other block producers be knocked off the network.

Pay is very unequal between the top block producer and the bottom standby block producer. On July 3, 2018 the top block producer 'bitfinexeos1' earned 1,017 EOS (USD $8,960) while the lowest paid standby block producer 'sheleaders21' earned just 118 EOS (USD $1,040) a ratio of almost 9:1.

For the standby block producers to truly be able to step in at any time, they need to be able to afford to keep up with the very expensive technical requirements of enterprise-level servers, data centers, DDOS protection, and a staff to keep it all running. It is not easy to slide into this role at a moment's notice.

At a pay ratio of 9:1, standby block producers will have a very hard time keeping up with the technical and staffing standards of the leaders. And because there is really no existing process in Eos for verifying the readiness of standby BPs, the ideal moneymaking strategy for an Eos standby block producer below #25 or so would be to run incapable nodes with the producer plugin and spend their entire budget on social media to get votes. This is not what the network needs standbys to do, but this is how they are incentivized by the pay structure.

The Telos pay structure addresses this by keeping pay at 2:1 between full-time elected block producers and standbys. This allows standby block producers to remain capable of keeping up with the elected block producers. The system also calls on them to step into block producing once every 3-7 days for 6 hours. The final mechanism is open to discussion, but one possible structure is as follows:

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> Every elected block producer rotates out for 12 hours once per week.
> Every standby block producer rotates in for 6 hours once per 5 days.

This reduces the cost of running servers for block producers because they can schedule weekly maintenance and updates and it forces standbys to be ready to truly protect the network. All block producers and standbys will be penalized for blocks not produced.

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The following table envisions block producer and standby block producer pay at the outset of the network.

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Projected Telos Block Producer Pay and USD Value

USD-TLOS Price			$2.50	$5.00	$10.00	$15.00	$20.00
TLOS Money Supply	331,753,222	TLOS	$829,383,055	$1,658,766,110	$3,317,532,220	$4,976,298,330	$6,635,064,440
Daily Inflation	0.0027%						
Total Daily Pay	9,089.13	TLOS	$22,722.82	$45,446	$90,891	$136,337	$181,783
BP Daily Pay (@ 21 BPs)	252.48	TLOS	$631	$1,262	$2,525	$3,787	$5,050
SBP Daily Pay (@ 30 SBPs)	126.24	TLOS	$316	$631	$1,262	$1,894	$2,525
Monthly Inflation	0.0833%						
Total Monthly Pay	276,317.26	TLOS	$690,793.15	$1,381,586.29	$2,763,172.59	$4,144,758.88	$5,526,345.17
BP Monthly Pay (@ 21 BPs)	7,675.48	TLOS	$19,189	$38,377	$76,755	$115,132	$153,510
SBP Monthly Pay (@ 30 SBPs)	3,837.74	TLOS	$9,594	$19,189	$38,377	$57,566	$76,755
Annual Inflation	1%						
Total Annual Pay	3,317,532	TLOS	$8,293,831	$16,587,661	$33,175,322	$49,762,983	$66,350,644
BP Annual Pay (@ 21 BPs)	92,153.67	TLOS	$230,384	$460,768	$921,537	$1,382,305	$1,843,073
SBP Annual Pay (@ 30 SBPs)	46,076.84	TLOS	$115,192	$230,384	$460,768	$691,153	$921,537

(USD values are for reference only.)

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Arbitration in the Telos Network

The Telos ABPs intend to clarify their intention for the role and process of arbitration within the Telos network. It is their intention to create a functional Telos Arbitration Organization (TAO) prior to Telos mainnet activation.

In Telos, the primary role of arbitration is to resolve non-deterministic elements of smart contracts with arbitrators acting as human "oracles" to settle disputes. Secondarily, arbitrators will work with the parties to find an outcome when the actual actions of a smart contract are at odds with the intent and means documented in the Ricardian contract or when breach of contract is alleged. Arbitration is never meant to be used to resolve matters of stolen accounts through instructing block producers to freeze or modify accounts. This function is deemed to generally be moot since thieves can move tokens faster than accounts can be frozen and because EOSIO has robust security features that work to prevent theft. Owners bear responsibility for securing their own addresses.

This is the intent of the Telos ABPs. However, it is important to note that the Telos network is decentralized with no owners, managers, or fiduciaries and no system of governance outside the votes of block producers elected by the token holders. Future block producers are encouraged but by no means required to abide by any intent stated by the ABPs.

Telos Arbitration Process

1. The TAO follows a set of core rules for Telos arbitration. Other rule systems (e.g. American Arbitration Association) may be layered on top of these if both parties agree.
2. The intent for TAO arbitrators is to act as a human "oracle" (data/information/decision source) for non-deterministic contract. Ideally, an arbitrator is appointed at the outset of a smart contract execution.
3. A case is submitted for arbitration via Dispute Arbitration Smart Contract (DASC) that includes information about the nature of the dispute, whether it is a new dispute or an appeal, and the arbitration fee.
    a. If a case has wiped out a member's account, they may request no-fee arbitration TAO members may elect to waive fees or use grants from Worker Proposals or the Telos Foundation to cover these.
4. The arbitrator will request statements and information from both parties.
    a. The parties submit their statements and information to the arbitrator and each other.
    b. The parties may submit rebuttals to another party's statements and additional evidence to address opposition statements or evidence.
    c. The arbitrator may ask any questions he or she deems necessary to determine an outcome.

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    d. The arbitrator renders a judgement based solely upon the evidence presented as it relates to the Telos Constitution and Rules and the terms of the smart contract in question. Where they differ, the intent documented by the Ricardian contract will be given more significance than the source code. This decision is transmitted to either the smart contract as an oracle data point, or to the block producers as an arbitrator order via the case's DASC.
5. The arbitrator actions shall be executed directly (where allowed by prior agreement) or else submitted to block producers for execution. Such submission will be in the form of a transaction ordered to be executed on the blockchain along with arbitrator's private key approval.
6. The block producers must execute the orders of the DASC within 12 hours.

- The intent for TAO arbitrators is NOT to attempt to refund funds lost through theft. Telos and EOSIO software have high level security protections. This is the best defense against theft. Thieves will move too quickly to defeat with arbitration. The process only risks further contagion to innocent parties who may acquire the stolen tokens.
    - All funds stolen before the Telos launch begins that can provide cryptographic proof of ownership will be repatriated to original owners via assignment of new owner provided keys.

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Telos Stolen Fund Repatriation Process

In some cases during the Eos ICO and registration process, some addresses were incorrectly registered, left unregistered, or falsely registered in scams. The Telos ABPs intend to correct this situation to the extent possible before the network launch and provide TLOS tokens to those who should rightfully have them.

To accomplish this, the ABPs will seek to credit those who can prove, using cryptographic keys, that they are the true owners of lost or stolen tokens. This includes EOS tokens that were not originally registered prior to the snapshot. The following process is for repatriating funds to their rightful owners in advance of the Telos network launch.

Telos Stolen Fund Repatriation Process

Registered addresses that have not been stolen:

1. No action required. Your TLOS tokens will be on the network

Registered addresses that have been stolen:

1. Address owner files claim, providing:
    a. Stolen address
    b. Cryptographic signature from Ethereum wallet as proof
    c. A new EOSIO public key as half of a key pair that will control the account
2. Address will be posted for contestation for 10 days (with no identifying information).
    a. Any other user will have the opportunity to provide cryptographic evidence proving ownership.
3. Uncontested addresses providing cryptographic proof of rightful ownership will have old public key replaced with provided new public key in the Telos genesis file.

Unclaimed EOS tokens from token sale:

1. Unregistered token owner files a claim providing:
    a. Eos ICO purchase transaction hash
    b. Cryptographic signature from purchasing Ethereum wallet as proof
    c. A new EOSIO public key as half of a key pair that will control the account

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2. Addresses providing cryptographic proof of rightful ownership will have address and new public key inserted into the Telos genesis file.

EOS tokens on exchanges at Eos mainnet launch:

1. Telos ABPs have provided an exchange TLOS token creation petition process for exchanges to work with the ABPs to create tokens for their customers who held EOS at the time of the snapshot.
    a. Exchanges must complete the process in order to receive new tokens to distribute to their customers.
2. The Telos ABPs and block producers take no responsibility and will take no action for tokens held on exchanges.

The Telos ABPs intend to repatriate tokens that can be cryptographically proven to have been unregistered or stolen at the Ethereum registration or Eos voting stages under the rationale that this correction is possible and verifiable before the Telos network launches. We recognize that some losses were due to the ethereum registration process and the lack of approved consumer-grade voting wallets at Eos mainnet launch.

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The Telos network will adopt base layer arbitration to protect token holders from theft. Not all forms of theft may be recoverable, but arbitrators will have the ability to call for block producers to freeze accused accounts for a limited amount of time upon presentation of evidence of theft. Telos block producers will have authority for specific actions to demand restitution in accordance with a duly processed arbitration contract. The arbitration contract and Telos Arbitration Organization will be active from the time of the network launch.

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Telos RAM Speculation Prevention

RAM speculation is a danger that has already emerged in Eos. Some speculation will always occur in healthy markets with scarce resources, however when speculation is out of control then it ties up valuable scarce resource and limits network availability. To maximize network utility and keep the Telos network a cost-effective place to deploy DApps, Telos will implement the following tactics meant to discourage rampant speculation.

- Limit initial RAM allocation
- Tie RAM increases to network utilization
- Encourage Telos Foundation to help stabilize price swings

Limit Initial RAM Allocation

The Eos launch allocated 64GB of RAM on mainnet launch. This number is far, far more than any DApp on the network requires. To speculators this is an enormous land grab opportunity of a scarce resource at a very cheap price. Eventually this RAM will be valuable. This "RAM-grab" will lead to high speculation and a boom-bust cycle that works against network stability and makes deploying DApps a challenge to budget. This is a strike against the Eos network for serious developers and may serve to keep small innovators priced out of Eos altogether.

To encourage developers and avoid price swings, the Telos network will launch with 4GB of RAM. While this sounds low, it will be more than enough to support any real DApps or airdrops on the system. The low number serves as an incentive not to speculate on Telos RAM because new RAM can be released, reducing elevated values of existing speculation.

Tie RAM Increases to Network Utilization

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The Eos mainnet is debating how and when to change the RAM supply. Increasing available RAM will temporarily lower the price but will ultimately worsen speculation because there will be less potential RAM to release in the future.

The Telos network will tie new RAM releases to utilization figures. The initial proposed value is that when >50% of the network RAM is consistently in use over a set period of time, new RAM will be released. This will tie new RAM to network growth. The block producers will ultimately determine the network RAM supply via the 'setram' action.

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Encourage Telos Foundation to Help Stabilize Price Swings

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The Telos Foundation is a non-governing body with independent governance. Its goal is to promote network growth through grants. It has an endowment for these grants which can also serve as a method to help discourage RAM speculation.

The Telos Foundation will publish regular guidance on the price of Telos RAM that it sees as reasonable in the professional opinion of experts hired by the Foundation to set the Telos published guidance price for RAM. When the price is lower than this guidance price, the Telos Foundation may buy RAM. When the price is higher, it may sell. This is intended to help stabilize the price. This approach naturally has its limits, but it is expected to aid in discouraging price gouging. Further, the Telos Foundation may elect to sell or lease RAM to developers at its published guidance price (regardless of current price) to encourage some developers to build on the system. When publishing its guidance price, the Telos Foundation will include published advice to the Telos block producers about when to release more RAM into the system. This decision will remain with the block producers, however. Any professionals hired by the Telos Foundation to set RAM pricing will be prohibited from trading Telos RAM on their own accounts.

To ensure that small innovators are not priced out of the network, the Telos Foundation will also issue some grants in the form of RAM to such developers. In such cases, it will favor open source DApps.

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Telos Exchange Petition Process

The Telos Appointed Block Producers (ABPs) create the following process to allow exchanges that listed EOS at the time of the snapshot to petition to have their Telos addresses funded through the creation of new TLOS tokens sufficient to provide TLOS tokens to EOS owners at the time of the snapshot (1:1 up to 40,000 TLOS per customer). The Telos ABPs agree to create tokens for every exchange that completes the process.

The intent of the Telos project is to provide TLOS to all EOS token owners at the time of the Eos snapshot (up to 40,000 per address or exchange customer). The Telos ABPs encourage future Telos block producers to honor this intent and to create tokens necessary for every exchange that follows the petition process. However, it is important to note that the Telos network is decentralized with no owners, managers, or fiduciaries and no system of governance outside the votes of block producers elected by the token holders. Future block producers are encouraged but by no means required to abide by any intent stated by the ABPs. Therefore, the ABPs launching the Telos network will only have the full control to process exchange petitions during the period between launch and activation. Upon activation, the decision of whether or not to create new tokens for any petitioning exchange will be up to a vote of 15 of the 21 elected block producers at the time.

The Telos ABPs have established an exchange outreach working group to contact all Eos exchanges and help guide them through the process during the launch period. It is important to stress that only during the Telos launch period is the creation of TLOS tokens for petitioning exchanged guaranteed by the ABPs.

Exchange TLOS Token Creation Petition Process

1. The exchange and the Telos Exchange Outreach Working Group (TEOWG) initiate communications and each designate a representative for this case. Investment funds, online wallets, and similar institutions holding EOS tokens for multiple owners may also petition under this process.

2. The exchange signs a letter of intent to list TLOS tokens and provide them to their EOS token holders as of the time of the Eos snapshot with a cap of 40,000 TLOS tokens per account. This letter documents terms of new token printing including that the exchange will agree not to act as a block producer and not to vote tokens for which they are not the beneficial owners. (i.e. never to vote from their exchange holding addresses.) The exchange and/or Telos network may issue publicity about this development.

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3. The exchange provides identification of all exchange-owned addresses on snapshot along with cryptographic proof of ownership and a statement that there are no other addresses under their control.

4. TEOWG provides current copy of current Telos node and client software and any additional support necessary to deploy.

5. Exchange provides anonymized list of account amounts at time of Eos snapshot as CSV file or similar.

6. TEOWG examines the exchange-provided accounts list and caps holdings of all accounts at 40,000 TLOS tokens.

7. The exchange and TEOWG agree on the total value of tokens to be created and the addresses (from the identified exchange-owned addresses) to which they will be sent.

8. The exchange publicly announces its upcoming listing of TLOS tokens and distribution to EOS owners with a launch date. (This may have occurred earlier but must occur by this point.)

9. TEOWG provides exchange's petition along with documentation to Telos ABPs for review. The Telos ABPs will coordinate scheduling of TLOS token creation with the exchange's release schedule.

10. The Telos ABPs vote to create tokens. The Ricardian contract of this transaction requires that the exchange must accept terms of not voting from these addresses and not operating a block producer candidate, and distributing all TLOS tokens to their customers as represented in the agreement.

11. The exchange enables trading of TLOS.

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Is Telos a Security?

Ultimately, it will be up to the agency that enforces securities law in each country to determine whether or not Telos's TLOS tokens are considered a security—and therefore subject to regulation. However, the US Securities Exchange Commission has been known to set precedent in this area and recent statements by the SEC shine a very encouraging light on the question.

On May 7, 2018, William Hinman, SEC director of corporate finance spoke at the Yahoo Finance All Markets Summit and sought to clarify under what conditions a coin or token would be considered a security. Two core concepts emerged from his speech. First, a security is largely determined by the nature of its offering to the public—how it was sold, what representations were made, etc. Hinman's second key point was that a coin or token that was initially sold in a way that would have been viewed as a security could eventually be sold in a way where it was not considered a security, based on decentralization and the lack of centralized entity controlling it. Hinman concluded:

> *"Based on my understanding of the present state of ether, the Ethereum network, and its decentralized structure, current offers and sales of ether are not securities transactions,"*

Based on both of these points, we the Telos ABPs endeavor to launch this useful network relying on Director Hinman's statements that, just as Ethereum is not a security due to its decentralized nature TLOS would also not be considered a security since it is even more decentralized than Ethereum. Further, Telos never offered any tokens for sale or accepted any money whatsoever from investors.

We believe that, based on the determination of Mr. Hinman and the US SEC, the TLOS token should not be viewed as a security for two important reasons:

First, TLOS has never been offered in any type of ICO. TLOS is an entirely new token that will be created upon the Telos mainnet launch. The Telos network is recreating a modified ownership snapshot of the Eos token sale as a way to reward those who paid to have the open source EOSIO software created by Block.one. To be clear, all of the monies contributed to this ICO went to Block.one, none to the Telos network. The EOSIO software is open source and free to copy. The Telos ABPs have decided to reward the backers of Eos by granting tokens matching their Eos purchases, up to a capped amount per address, but there is no affiliation with Eos or Block.one. Telos did not sell anything so it is difficult to conclude that it ever offered a security.

Second, even if it should ever be concluded that TLOS tokens would have been a security, despite never having been sold or offered for sale, the point is rendered moot by the entirely decentralized nature of the Telos network. Telos has no owners, managers, or fiduciaries. The network is administered by

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independent network of validating node operators called block producers who are continuously elected through the smart contract voting of TLOS token holders. The TLOS token ownership is notably one of the most evenly distributed and decentralized of all cryptocurrencies. There is no evidence that any single entity will control even 0.5% of the Telos network.

The Telos network will be initially launched by appointed block producers (ABPs) who will initiate the network launch and will be granted TLOS tokens for their efforts. An entity referred to as the Telos Foundation will receive TLOS tokens as a way to provide funding grants for necessary network functions. At the time these TLOS token will be granted to these entities and the TLOS token holders at large, the tokens will have no par value because they derive their value from either the exchange price (at a time when they are not listed for trade on any exchange in the world) or by the network value (at a time when the network has neither been launched nor can conduct transactions).

Before the Telos network becomes live and open to transactions, the 6 ABPs will all relinquish their privileges and step aside for the 21 block producers elected from voting of at least 15% of all TLOS token holders. TLOS tokens will only attain value if the token holder-elected block producers in conjunction with the efforts of the members themselves create a working, valuable network.

Our understanding as ABPs is that, based on the comments of Mr. Hinman, published on the SEC web site, that TLOS tokens are not securities and our issuance of these no value tokens of ownership in a thoroughly decentralized network is not an offer of securities.

The ABPs are not attorneys and this should not be construed as legal advice. Frankly, this is largely unsettled law. However, Director Hinman's statements are clear and have been published on the SEC web site, signaling that they are officially sanctioned. Based on this definition, it seems difficult to deem TLOS a security under the US SEC definition.

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NOTE: THIS IS NOT LEGAL OR SECURITIES ADVICE. IT IS OUR INTERPRETATION OF PUBLISHED STATEMENTS BY THE UNITED STATES SECURITIES EXCHANGE COMMISSION AS THEY MIGHT APPLY TO TLOS TOKENS. SEEK COUNSEL FROM YOUR OWN PROFESSIONAL ADVISORS BASED ON YOUR NEEDS AND JURISDICTION.

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Telos FAQ

Q: What is Telos?

A: Telos is a new blockchain network based on EOSIO software.

Q: What is the difference between Eos and Telos?

A: Eos and Telos are both networks running the EOSIO software. Any smart contract that runs on one system should run equally well on the other. Telos has modified the Eos genesis snapshot and some rules to make the network more responsible to the majority of token holders, to be more attractive to DApp developers, and to generally run more responsively and sustainably.

Q: What is TLOS?

A: TLOS is the name of the token that reflects ownership in the Telos network. A TLOS token is like an EOS token except that there will be around 3X fewer TLOS tokens than EOS.

Q: If I bought EOS tokens, will I get TLOS?

A: Yes, if you bought EOS and registered them, then your TLOS tokens will be available for voting at mainnet launch and for transfer or stake as soon as the mainnet activates reaches 15% consensus – up to 40,000 TLOS per address. If your tokens are on an exchange, the exchange must agree to list TLOS and distribute tokens to owners for you to receive them.

Q: Are you taking away people's EOS tokens?

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A: No. EOS holders will have the exact same number of EOS tokens on the Eos network as they ever had. That is what they purchased from Block.one. Telos is a new project based on the Eos network. The Eos source code is open source and freely available to fork. We have decided to give an equal number of TLOS tokens to every EOS token holder on the genesis snapshot, but capping values at 40,000 TLOS per genesis address. This means that there will be no whales created from the Telos genesis, although the total token ownership of any account is unlimited once the network launches.

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Q: Is Telos an airdrop?

A: Telos is a completely new network using the same EOSIO operating software as Eos mainnet with a few small modifications. It is not an airdrop. However, the distribution of TLOS tokens is similar to an airdrop in that anyone who owned Eos tokens will receive new TLOS tokens at their addresses based on our genesis token distribution algorithm.

Q: What exactly is the Telos genesis token distribution algorithm?

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A: Simply, it is that all Telos genesis addresses will receive the same number of tokens as their corresponding Eos addresses held in the genesis snapshot—up to a maximum of 40,000 tokens. Except for a few special cases: Addresses proven to have been stolen, phished, or misregistered, thereby depriving their rightful owners of them will be restored to new addresses controlled by their rightful owners; and new genesis tokens will be created to compensate the Telos Launch Group contributors and community members promoting the network, and to establish the Telos Foundation.

Q: If you cap all accounts, how can EOS holders get TLOS from exchanges?

A: The TLOS block producers have the ability to create new tokens by a vote of 2/3+1. The 6 ABPs agree to create new tokens for distribution for any exchange that can show EOS holdings on the snapshot and that agrees: to list TLOS; not to vote the exchange account; and to request and distribute only enough coins so that all EOS holders at the time of the snapshot receive their coins capped at 40,000 per account. The ABPs will have a process in place for exchanges to petition them to create TLOS tokens and promise to honor all valid petitions. (It will require a vote of 5 of the 6 block producers to accomplish this.) Once the Telos network activates and the elected block producers validate the network, it will take a vote of 15 of the 21 block producers to create new tokens for exchanges.

Q: Why cap genesis addresses at 40,000 TLOS?

A: The largest 1,050 Eos addresses control about 90% of EOS tokens and therefore completely control block producer selection, their voting, and ultimately the entire network. This makes the system dangerously centralized. By capping genesis addresses at 40,000 TLOS—approximately the 90th percentile of ownership—the Telos network will be one of the most evenly distributed major blockchains in existence. 162,930 addresses will have exactly as many TLOS as they did EOS. The total TLOS token supply will be lowered to approximately 200-400,000,000 TLOS tokens depending on how many exchanges petition to recreate their wallets.

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Q: Can Telos addresses ever have more than 40,000 TLOS?

A: Yes. The 40,000 TLOS cap only applies at the network genesis. Addresses may hold any amount of TLOS thereafter.

Q: Will you still require 15% of TLOS token holders to vote to launch the mainnet?

A: Yes. However, with addresses capped and Telos Foundation addresses permanently excluded from voting, the number of total votes needed to launch will decrease. This will represent a much broader cross-section of individual TLOS token holders.

Q: What is the difference between the Telos mainnet launch and activation?

A: Telos mainnet launch is the process of the beginning to run the Telos network to allow votes to be cast for block producers and for network validation. Activation is the point when TLOS holders can begin transferring or otherwise controlling their tokens beyond just voting. Activation will commence 24 hours after 15% of TLOS token holders eligible to vote have voted for block producers and mainnet activation and at least 40 block producer candidates meet the minimum block producer requirements.

Q: If exchange addresses cannot vote, will my TLOS tokens be able to vote if they are currently on an exchange?

A: Once tokens are off the exchange and on your own Telos address, you can vote them. Individual owners cannot vote their tokens held on exchanges. Preventing voting from exchange accounts keeps exchanges from voting with customer tokens, which is against the Telos rules.

Q: Will this hurt the Eos network?

A: The Eos network will succeed or fail based on its own merits. We hope it succeeds, as we are all deeply invested in this project. However, the Eos mainnet release has revealed problems with the system that will be difficult to resolve on the Eos blockchain. “Whales” have shown that they generally just vote for their own block producer partners and even game the rewards system to harm other block producers—this may also be expected once worker proposals emerge. The Eos network is under the control of a few whale accounts. We offer a fresh approach where all token holders’ voices matter. Telos also hopes to provide a testbed for new ideas that may eventually be adopted by the Eos mainnet. In this way we hope to strengthen Eos.

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Q: If these changes will fix the network, why doesn't Eos make them?

A: Block.one sold EOS tokens in their tokensale. They accepted money for tokens and made certain representations. They can't easily change the results of their sale—especially by reducing the tokens of their largest contributors, which is really the key change that fixes the system. Telos is a completely new system that never took money from nor made promises to anyone. We intend to build a network using the open source Eos software (that we all helped pay for) to create an entirely new network that better represents the true purpose of Eos.

Q: Can I buy and sell TLOS tokens? What are they worth?

A: TLOS tokens will not gain value until the Telos mainnet launches and they are able to be traded. In practical terms, TLOS will gain real value when exchanges accept them to trade against other cryptocurrencies. We expect that this will happen because exchange customers will demand that they be given access to their tokens. The technical requirements for listing TLOS will be identical to EOS so we expect little resistance on that point. Once tokens are freely trading on exchanges they will find their value based on supply and demand. The TLOS token supply will be between one-fifth and one-third that of EOS, and the Telos network should be as good as or better than Eos. Telos will also not have any "whale" addresses which often are responsible for price manipulations in other coins.

Q: Are you selling TLOS tokens?

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A: We are not selling any TLOS tokens. We will use the Eos Snapshot with the following changes: 1) Capping all addresses at 40,000; 2) Creating a process for exchange addresses to petition the BPs to create TLOS tokens for their EOS snapshot owners by listing and distributing TLOS tokens (up to 40,000 per account holder); 3) Providing new public keys to EOS token holders who can prove that their tokens were stolen or misregistered; 4) Adding 6M new tokens to form a Telos Founders Reward Pool, 1M new tokens to form a Telos Community Rewards Pool, and 6M TLOS tokens to the Telos Foundation Ltd, to support network needs that cannot otherwise be funded. These tokens currently have no value and will only gain value if the Launch Group and Telos Foundation can create a valuable network. The Telos Foundation pledges to never vote its tokens.

Q: Who are you and why are you launching Telos?

A: We are a group of Eos block producer candidates who have contributed to the system, run testnets, and taken part in the Eos Mainnet Launch Group that voted to unanimously launch the mainnet. We

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believe in the promise of Eos, but we have come to be concerned that the current system is deeply flawed due to the overwhelming power of Eos token holders with enormous holdings. We hope that Eos can overcome this problem, but in the meantime, we want to launch a new, more decentralized network using the Eos technology.

Q: Can Eos block producers also be Telos block producers?

A: Absolutely! We hope they will since they know how to run EOSIO nodes well. Anyone who meets the minimum requirements for a Telos block producer may submit themselves for voting.

Q: Can developers make their code proprietary?

A: Yes. If the developer has not accepted payment as a block producer, code reviewer, or worker proposal recipient in the past six months, they can designate the original code in a DApp as proprietary. Any underlying open source code that the DApp is built upon will remain open source, of course. By contrast, all smart contracts running on the Eos network must be open source according to the Eos Constitution.

Q: What if Telos users don't want to use proprietary software on the blockchain?

A: Each smart contract will designate if portions of its code are proprietary. Telos members will be able to choose whether or not they wish to work with proprietary smart contracts or only open source contracts.

Q: When will the Telos mainnet launch?

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A: The Telos Launch Group will hold a series of "go/no-go" votes about launching the Telos mainnet starting on September 28, 2018. To vote "go" each Contributor will need to agree that a series of promised elements (e.g. arbitration, governance, ratification, plus all technical requirements) have been delivered sufficient to launch a complete and successful network. Once a majority "go" vote is reached, the network will be launched by the ABPs until it receives both 15% of all outstanding Telos votes (Telos Foundation addresses), and at least 40 Telos block producer candidates who meet the minimum requirements. At this point the ABPs will resign any special powers and 24 hours later the Telos mainnet will activate for transactions. In other words, we will wait for a groundswell of support from both the original Eos token holders and a group of highly qualified technical block producer candidates. We believe that this will indicate a true mandate for the Telos network.

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Q: How are Telos block producers paid?

Telos will have 21 active block producers and up to 30 standby block producers sharing the 1% TLOS inflation. Each block producer will be paid the same flat rate and each standby will be one half of that rate. All will receive pay deductions for missed blocks.

Q: Will the team launching Telos take a fee for its service?

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A: Launching the Telos network is an expensive and time-consuming venture. The people launching Telos include block producers, developers, social media marketers, arbitrators, and others working together in a largely decentralized way. Members of the Telos Launch Group will be compensated in the TLOS genesis file. A Telos Founders Reward Pool (TFRP) will be created in the Telos genesis file containing 6M TLOS (about 1.8% of the expected money supply). This fund will be distributed among members of the Telos Launch Group – an open-membership group established to create and launch the Telos network – based on tasks performed by members. The exact method of TFRP distribution is yet to be determined but will be formalized prior to network launch.

Q: You say that Telos won't have any "whales" but aren't the TFRP recipients and Telos Foundation going to become whales?

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A: The Telos Foundation will never vote its tokens. TFRP funds will be broadly distributed among contributors in a manner to be determined soon. Distributions over a certain amount will unlock evenly over a 3-year period similar to how Block.one's tokens vest. No TFRP recipient will be able to vote itself into the block producer ranks without the help of many TLOS token holders.

Q: Why are TLG members being compensated?

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A: Members of the Telos Launch Group are taking a central role in creating and launching the Telos network. They are bearing the costs and contributing the effort to bring the network to life. To compensate their work and defray cost they incur, they are being granted new genesis tokens on the Telos blockchain distributed from the Telos Founders Reserve Pool. These tokens are of zero value at the genesis and will only gain value if the TLG, Telos Foundation, and other participants can launch a valuable network. This approach is in line with bounty programs common in cryptocurrency launches. The total amount of compensation for the many founders/bounty recipients is ~1.8% of the expected Telos token supply, which is a low number for cryptocurrency projects where large amounts of work are required and no funding has been sought.

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Q: What is the Telos Foundation?

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A: The Telos Foundation is a promotional arm of the Telos Network. Prior to the Telos mainnet launch, the Telos foundation will organize technical, informational, and marketing efforts to advance the Telos network. The Telos Foundation will manage the Telos genesis file subject to validation of the ABPs. Immediately upon the mainnet launch, the Telos Foundation will cede its authority to the ABPs to be governed by the Telos Constitution and voting rules.

After mainnet launch the Telos Foundation will function as an independent promotion and funding body for the Telos network. Its function will be to pay for projects that are not selected for worker proposals or that cannot yet be funded due to inadequate funds. (Particularly early in the life of the network.) The Telos Foundation may apply for worker proposal funds to reimburse funds dispersed as the goal is to create an ongoing fund that is not depleted. It will also seek to stabilize RAM prices by regularly publishing a guidance price and buying below that price, selling above it, and offering RAM for sale or lease to bona fide developers seeking to develop on the network.

The Telos Foundation is a decentralized organization that votes on its own issues via smart contract. It does not serve or seek any official governance position and will remain neutral on block producer candidates and proposals. Addresses owned by the Telos Foundation will never vote.

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