Constellation Network $DAG
UNOFFICIAL Tokenomics
v.2.2.0

by $DAG Community

Introduction

This tokenomics is an unofficial document created by the $DAG Community for collecting the relevant information related to $DAG and HGTP in a central place and make it easily accessible for anybody interested in $DAG.

This document does not belong to Constellation Network and it has not been validated or approved by Constellation Network, any information included here has been added by the $DAG Community and it is subject to possible errors.

This document only includes the public information which exists at the moment of its creation.

History

$DAG started as an ERC-20 token until the Mainnet 1.0 was released the 1st of March of 2020.

There was a campaign during 2020 for swapping the $DAG ERC-20 tokens into Mainnet 1.0 tokens (1 to 1). A total of 2.093.588.685 $DAG were swapped. However, even today there are still some old $DAG ERC-20 tokens from people who did not perform the swap, which are no longer valid. There is no possibility to swap them any longer and whoever is trying to trade them is a scammer.

The Mainnet 2.0 (HGTP) was released the 28th of September of 2022.

Governance

Hypergraph network governance is based on the Hypergraph Improvement Proposal (HIP) process. A HIP comes as a design document that evolves from an idea to an actual proposal on which the community votes. Depending on the type of HIP, the parties involved are the author, the community, a sponsor, and the Hypergraph Core Developers.

Sponsors are nominated by each stakeholder group: Core Dev; L_0 Projects; Constellation Foundation; Community DAO; and Node Operators.

The current sponsors are:

- Core Dev: Lukasz@constellationnetwork.io
- L0 Projects: chandru@alkimi.org
- Constellation Foundation: mathias@constellationnetwork.io
- Community DAO: *To be nominated by Stardust Collective*
- Node Operators: Doug@constellationnetwork.io

Authors first vet their improvement idea with the community. If the community finds that an idea carries sufficient weight, its author can propose it on https://hypercore.org and request a sponsor versed in the subject to jointly review and discuss the idea. Also other relevant parties should remain involved. This way the idea is developed into a draft and is assigned a HIP number. At this moment, the idea is endorsed and becomes an official HIP which will be put to the vote on Lattice.

There are three types of HIP:

- Standard or Code: these are core proposals that involve changes to the HGTP protocol itself;
- Process: these are surround proposals that involve structural changes to everything besides the HGTP protocol;
- Informational: these proposals are not about new features but define and codify guidelines and best practices for the community.

$DAG Supply

The $DAG supply is as follows:

Max Supply: 3.693.588.685
Current Circulating Supply (Jan'23): 2.737.358.970

The current circulating supply can be consulted using the following endpoint and dividing the value in "total" by 100.000.000:
http://l0-lb-mainnet.constellationnetwork.io/dag/total-supply

The rest of the $DAG tokens pending to be minted, will be minted progressively until 2030 when it is expected to mint the last $DAG. This is 10 years after the release of Mainnet 1.0. For more details on this please check the Rewards section on this document.

The original $DAG distribution was as follows:

Token Distribution	%	Total	Vesting	Lockup
Founders	20,00 %	800.000.000	4 years, 25% vests 12 months from the start date, remaining 75% released in equal monthly installments thereafter.	4 years, 5% released at TGE, 20% released on 12/1/18, remaining 75% released in equal monthly installments thereafter.
Partners & Advisors	13,43 %	537.065.000		2 years, 25% released on 12/1/18, remaining 75% released in equal monthly installments thereafter
Foundation Tokens	26,32 %	1.052.810.165	Tokens issued to employees are subject to 4-year vesting schedule with cliff	
Community Tokens	2,00 %	80.000.000		

Validator & other Rewards	20,00 %	800.000.000		10-years, minting starts at Mainnet 1.0 Launch
Private Sale	18,25 %	730.124.835		All tokens issued at a discount will be locked up until 12/1/18. For example, a purchaser with 15% discount will have 15% of tokens subject to lock up.
Total	**100 %**	**4.000.000.000**		

On the 4th of July of 2019 the founders burned all of their tokens, ~300.000.000 Tokens (7.2% of the supply) were burned resulting in the current max supply of ~ 3.7 B $DAG.

Nodes

In order to run a Mainnet 2.0 node, the operator needs to keep 250.000 $DAG as collateral which is checked in every snapshot. Testnet nodes do not require any collateral.

Currently, both Mainnet 2.0 and Testnet require nodes to be whitelisted and currently no more new nodes are accepted.

Hardware Requirements:

- 8 cores or vCPUs.
- 16 GB Memory for running both Layer 0 and Layer 1.
- 320 GB disk space for storing the Snapshots and logs.

Software Requirements:

The node requires a Linux Debian Based Operating System:

- Ubuntu 22.04
- Debian 11

Currently the Mainnet 2.0 network is composed of more than 200 nodes, and Testnet 2.0 consists of 50 nodes.

The nodes run the HGTP protocol called Tessellation written in Scala. Node operators can use a utility called *nodectl* to ease the installation and management of the node.

State Channels

State Channels are independent networks that can operate separately from one another. These networks can be either legacy systems that lack blockchain integration, or networks that use a consensus mechanism based on a specific blockchain technology, such as ethereum, and have their own set of nodes. Each State Channel can establish its own consensum method, They make use of microservices to communicate with the underlying Layer 0.

Currently there is no State Channel deployed on the Hypergraph network, except for the protocol core state channels (Global L0 & DAG L1).

Snapshots

In HGTP there are two type of snapshots:

- **event-triggered:** is whenever there is data from L1 (dag transaction, state channel, etc). This is with no rewards (or just fee distributed to validators).
- **time-triggered:** is started every 48 seconds (+ ~12s of global consensus process). It gives ~1 snapshot per minute. This snapshot contains rewards.

On Mainnet 1.0, there were two files on disk to store the snapshots - one for incremental and one for full state dump. On Mainnet 2.0, these files have been combined into a single file, but it's being modified to incremental only. This means that only the changes made since the last snapshot are stored, rather than storing the entire state of the network at each snapshot.

The change brings more complexity as the intermediate state needs to be calculated on demand, for example, to check the balance of a certain user at a certain point in time.

The network is called feeless, as one transaction per user per snapshot is free. Any additional transactions performed by the same user during the same snapshot will be charged a fee of 0.00000001 DAG.

Snapshots have a size limit of ~50kb per snapshot.

Rewards

The Tessellation protocol, which runs on the Mainnet nodes, mints rewards in every time-triggered snapshot. It means total rewards depends on the number of time-triggered snapshots occurred, which is not fixed and depends on network variables and circumstances.

Tessellation includes four epochs. The epochs include an attribute called *EpochPogress*, which increases its value by 1 in each time-triggered snapshot. Each epoch lasts for around 2.5 years and ends at a defined value of *EpochProgress*.

- Epoch 1: ends at 1.296.000.
- Epoch 2: ends at 2.592.000.
- Epoch 3: ends at 3.888.000.
- Epoch 4: ends at 5.184.000.

Each Epoch mints a defined amount of $DAG tokens per time triggered snapshot:

- Epoch 1: mints 658,43621389 $DAG.
- Epoch 2: mints 329,21810694 $DAG.
- Epoch 3: mints 164,60905347 $DAG.
- Epoch 4: mints 82,30452674 $DAG.

Reward Programs

The current reward programs are:

Mainnet nodes

Mainnet nodes validate the transactions in Mainnet 2.0. For being able to validate the operations the node wallet must have a minimum of 250.000 $DAG (they can be soft staked at the same time). Currently the access to Mainnet 2.0 is whitelisted and there are around 200 nodes. No more nodes are allowed until the Proof of Reputation Observation (PRO) is released.

Testnet nodes

Testnet nodes validate transactions on Testnet 2.0. The requirement for being part of Testnet 2.0 is to have a 250.000 $DAG and technical knowledge. Currently there are no more node operators accepted for testnet 2.0.

Soft nodes

This is the staking program of $DAG. It has two versions:

- **full soft node** which is granted for every 250,000 DAG staked,.

- **fractional soft node** is when there are less than 250.000 $DAG staked, a percentage of the full soft node is granted. The minimum amount to stake is 100 $DAG.

Data Pool

Data Pool includes Dor Traffic Miner (DTM) rewards, state channel grants, bandwidth grants, and other on-chain data validation activities.

- State Channel grants:
  State Channel grants will be given out to those that are building state channels on testnet and have gone through the Flight Program and the new Web3 Launch Kit.

- Dor Traffic Miner (DTM)
  It is a thermal-sensing, people counting data miner which provides rewards once it is correctly installed.

veLTX holders

veLTX is the Lattice's governance tokens, it provides rewards by a fee to the soft node rewards. veLTX is not getting rewards directly from the minted tokens per snapshot.

Rewards Distribution

Since March 2023 the rewards have the following distribution:

Mainnet validator nodes

The amount of total rewards accumulated will be dependent on the current parameters of the network and how many nodes are being operated.

Mainnet validator nodes receive rewards in each snapshot.

4% of the total rewards are assigned to Mainnet validator nodes.

Testnet nodes

The amount of total rewards accumulated will be dependent on the current parameters of the network and how many nodes are being operated.

Testnet 2.0 rewards are distributed on a daily basis.

1% of the total rewards are assigned to Mainnet validator nodes.

Soft nodes (staking program)

Fractional nodes get 50% of the rewards of a soft node, this 50% rewards are distributed proportionally among fractional soft nodes based on their percentage holdings of the total

amount of $DAG staked across all soft node holders. Once a fractional node holder's staking balance reaches 250K $DAG, they will automatically be promoted to full node status and will be eligible for a share of full rewards.

Soft node rewards are distributed monthly.

Data Pool

Data Pool will be distributed among DTM, State Channels and others. How the distribution will be is not known yet.

By the time being as there are no State Channels the whole Data Pool will be distributed among all the DTM owners.

65% of the total rewards are assigned to the Data Pool.

Stardust Collective

Stardust Collective tax is split in two wallets managed by Stardust Collective.

10% of the total rewards are assigned to Stardust Collective.

veLTX holders

veLTX is not getting rewards directly from the minted tokens per snapshot.

There is a 5% fee on the soft node staking program. This fee will be distributed to all veLTX token holders and may be claimed as an airdrop through the Lattice node management platform.

In addition, veLTX holders have a 5% fee on any reward program or airdrop for the Lattice treasury fund. This fund is used to grow the Lattice ecosystem.

Stardust Collective

The stardust collective is an independent group of developers, designers and educators working on providing services, tools and resources for the constellation network.
https://stardust-collective.org/

Known wallets

Name	Address
Foundational 1.1 (during mainnet 2.0)	DAG7teqwiZjuBivJi7Mx8AkhwnF6w3Q1poUTCViK
Foundational 1.2 (during mainnet 2.0)	DAG07znCvSyM2xhxPZECrGhVF6WVPMvFWe6Z6EWW
Foundational 1.3 (during mainnet 2.0)	DAG1ZieMRm7ALEbSjmvwztvtZYu7srPaXwxbC14U
Foundational 1.4 (during mainnet 2.0)	DAG6ipRGeHmgGNNsPG8nQG4txeFNxwXJnXCEn3zQ
Foundational 1.5 (during mainnet 2.0)	DAG8UsoSR14peffVJKAsf3mqJFnkKSoQEUQDAQKN
Foundational 2.1 (announced 05/05/23)	DAG38whfr5CWzMoQg8PajuiukNNojySqyXtZdBhK
Foundational 2.2 (announced 05/05/23)	DAG3Sycgyv3UHQM3JDuGguoF5776ceR8GiwpdFJ9
Foundational 2.3 (announced 05/05/23)	DAG0kib4L4YYZCWrch6eBYeQkYCywTCuEZX58vTp
Foundational 2.4 (announced 05/05/23)	DAG8MWCDLPxjufRE2tkg3qpWSd7iJKFfsg9H5nCE
Foundational 2.5 (announced 05/05/23)	DAG7uFTujXArFTuTqELGYGcthacpfQykBX7wsgFv
Foundational 2.6 (announced 05/05/23)	DAG3yzY9252n8Fkxix7pZo5TH6F9paxSVLsDARK4
Foundational 2.7 (announced 05/05/23)	DAG2eFDjZ2CMA3M4KMfLw6Vnn7kaJPJqcSCpHU25
KuCoin cold wallet	DAG2Evedeb9cS7d28bxF4wwgeryiEqfDo8diZMZg
KuCoin hot wallet	DAG6cStT1VYZdUhpoME23U5zbTveYq78tj7EihFV
KuCoin	DAG5yqn4JRkW5oAMthhBayBtkZzfAvRQnkH1dCG4
Stardust Collective 1	DAGSTARDUSTCOLLECTIVEHZOIPHXZUBFGNXWJETZVSPAPAHMLXS
Stardust Collective 2	DAG8VT7bxjs1XXBAzJGYJDaeyNxuThikHeUTp9XY
Softnode reward pool	DAG77VVVRvdZiYxZ2hCtkHz68h85ApT5b2xzdTkn
Testnet reward pool	DAG0qE5tkz6cMUD5M2dkqgfV4TQCzUUdAP5MFM9P

Data Pool	DAG0Njmo6JZ3FhkLsipJSppepUHPuTXcSifARfvK

Endpoints

These are endpoints which can be of interest:

Endpoint	Link
Current circulating supply	http://l0-lb-mainnet.constellationnetwork.io/dag/total-supply
Latest global snapshot	https://be-mainnet.constellationnetwork.io/global-snapshots/latest
Latest rewards distribution	https://be-mainnet.constellationnetwork.io/global-snapshots/latest/rewards

Sources of Information

This document has been created collecting information from the following sources:

Name	Access
Constellation Network webpage	https://constellationnetwork.io/
Constellation Network medium	https://medium.com/constellationlabs
Constellation Network discord	https://discord.gg/9PhXJKeAWC
Constellation Network twitter	https://twitter.com/Conste11ation
Constellation Network doc hub	https://docs.constellationnetwork.io/
Constellation Network github	https://github.com/Constellation-Labs
Network APIs	https://docs.constellationnetwork.io/apps/network-apis/
Lattice webpage	https://lattice.is/
Stardust Collective webpage	https://stardust-collective.org/
Constellation whitepaper v 1.0	N/A
Constellation Network, inc. tokenomics 2.0	N/A
Constellation Network Node Operator's Handbook	N/A

Track of changes

Author	Date	Change
Fireflight, Phoenix070, Serg	22/01/2022	first release (v.2.1.0)
Geoff	23/01/2022	Governance section updated (v.2.1.1)
Serg	17/02/2022	Rewards distribution updated (v.2.2.0)