



Litepaper v0.01

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WWW.METALBLOCKCHAIN.ORG

Abstract

Metal blockchain (\$METAL) is a layer zero blockchain that allows any chain to deploy and find consensus through the Snow protocols (introduced by Avalanche) allowing it to run on a highly efficient model of Proof-of-Stake (PoS), eliminating the need for Proof-of-Work (PoW). Metal improves upon the initial work of Avalanche by adding a fourth subchain (A Chain) to offer a more resource efficient layer for payments and decentralized finance: Proton (based on EOSIO protocol, adding WASM). Additionally \$METAL posits it can remove the need for external wallet software outside of the browser, creating a more native Web3 experience by adding Web Authentication (WebAuthn) support for EVM. The highly inefficient consensus of PoW has opened the door for many enthusiasts of top blockchains such as Bitcoin, Dogecoin and Ethereum to begin the transition to PoS. Through creating a base-layer (\$METAL) and custodially wrapped tokens (xTokens) on Proton, mainnet blockchains can transition from PoW to PoS. \$METAL eliminates the need for centralized bridges by allowing exchanging between the Proton (A chain) and Exchange (X Chain) subchains, eliminating the risk of bridge-hacking, a growing problem in the world of cryptocurrency.



Consensus:

Snow protocols (Avalanche, Snowman, Frosty)

Metal ecosystem:

MTL - Open governance (chain agnostic)

METAL - Metal, Layer zero blockchain (chain consensus)

XMD - Metal Dollar decentralized stablecoin

XME - Metal Euro decentralized stablecoin

XPR - Proton, Layer one blockchain (token consensus)

LOAN - Decentralized cross-chain loan protocol governance (chain agnostic)

Transaction speed:

4,500+ transactions per second

Time to Finality:

< 0.5 seconds

Max Supply:

666,666,666 METAL



Initial Circulating Supply:

333,333,333 \$METAL

Coin Conversion:

\$METAL conversion will take place in one tranche of up to 60,000,000 \$MTL or 90 days, whichever comes first. Conversion will happen 1:2 for \$MTL to \$METAL, any \$METAL not converted within the 90 days will go to the Foundation.



Subchains:

Proton (A Chain)

Built to handle payments, decentralized finance, dApps, DAOs, payment messaging (Banks, PSPs, Fintechs) with a higher resource efficiency.

EVM (C Chain)

Built to handle the Ethereum Virtual Machine and for deploying Solidity contracts that can interact with top cryptocurrencies in a trust-less environment.

Stake (P Chain)

Built for stakers to validate the Metal network or delegate to other validators to earn staking rewards.

Exchange (X Chain)

Built to handle cross-chain exchanging and transfers between sub-chains.



Web Authentication

Metal Blockchain brings Web Authentication for all transaction signing on the Metal EVM (A, C, P, X Chains), eliminating the need for downloadable wallet software, while utilizing the secure element (SE) of the device, essentially turning your phone into a hardware wallet. Through the use of Web Authentication, Metal removes the need for risky extension wallets, and instead utilizes a more secure and convenient framework (Face/Touch/Yubi when signing) Web Authentication in line with the World Wide Web Consortium (W3C) recommendations.



Governance

The Metal ecosystem has two separate governance digital assets, one for greater multi-blockchain ecosystem governance (\$MTL) token and one specifically for the Metal blockchain (\$METAL) coin. Governance for the Metal Blockchain is formed around \$METAL (Metal blockchain), governance for the Metal ecosystem is formed around MTL (Metal Dollar, Metal Euro). Staker fees, Transaction costs and emission rate is all governed by \$METAL, and can be decided on by the network. The minimum amount of \$METAL required to stake to become a validator is 2,000 \$METAL. The minimum amount of time needed for a node to stake in the network is two weeks, with the maximum amount of time being 52 weeks.



Foundation

The Metal Foundation ('The Foundation') will be composed of top validators on the network with an open governance system for all \$METAL holders to make proposals and vote. The Foundation will operate openly with all meetings publicly accessible to listen and view. Additionally The Foundation will act as the voice to the community and open source builders working on the ecosystem to fund and develop any community driven efforts. The Foundation will always consist of an odd number of members not to exceed five at any given time, members can be added or removed through internal Foundation vote or external community vote.



Token Economics

\$METAL has a hard capped supply of 666,666,666 coins. The genesis block will have 333,333,333 \$METAL coins in circulation at launch, of which a maximum of 133,177,776 \$METAL can be generated from MTL genesis, 71,000,000 \$METAL granted to founders (vested over 12 months) and 144,333,333 \$METAL granted to the foundation. Similar to Avalanche and Proton, resources spent by a validator for staking are proportional to the validator's total stake. Rewards accumulated by validators are proportional to their total stake. Fees are burned, decreasing supply over time. Validators locking their stake for longer periods of time are rewarded proportionately, additionally validators are incentivized to stay online and operate correctly through proof-of-uptime and proof-of-correctness, pioneered in Avalanche.



Fee Structure

Fees are not returned to validators, rather they are burned, this creates a deflationary dynamic to \$METAL. Validators are incentivized by the emission structure of \$METAL which is set to release 333,333,333 \$METAL on a sliding scale which becomes increasingly scarce over a long period of time.



Inflation

Inflation is hard capped through a maximum of 666,666,666 \$METAL coins that will ever exist, the formula is as follows:

$$(666.6M - 333.3M) * (1M / 333.3M) * (10\% + 2\% * \text{MinimumStakingDuration} / \text{MaximumStakingDuration}) * \text{MinimumStakingDuration} / \text{MaximumStakingDuration}$$

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Maximum Capped Supply	666,666,666.00	666,666,666.00	666,666,666.00	666,666,666.00	666,666,666.00	666,666,666.00	666,666,666.00	666,666,666.00	666,666,666.00	666,666,666.00
Circulating Supply	300,000,000.00	321,999,999.96	341,267,080.67	358,430,155.78	373,909,481.65	388,002,810.59	400,930,421.58	412,860,801.87	423,926,288.19	434,233,096.05
Staked Amount (overall in the chain)	150,000,000.00									
Staking Duration	31,536,000.00									
Maximum Staking Duration (1 year)	31,536,000.00									
Minimum Staking Reward	0.08									
Maximum Staking Reward	0.12									
	21,999,999.96	19,267,080.71	17,163,075.10	15,479,325.87	14,093,328.94	12,927,610.99	11,930,380.29	11,065,486.32	10,306,807.86	9,634,927.18

1	45.00%
2	48.30%
3	51.19%
4	53.76%
5	56.09%
6	58.20%
7	60.14%
8	61.93%
9	63.59%
10	65.13%
11	66.58%
12	67.94%
13	69.21%
14	70.41%
15	71.55%
16	72.62%
17	73.64%
18	74.60%
19	75.52%
20	76.40%

