DMDv4 Light Paper

Introduction

Launched in 2013, DMD Diamond is one of the longest-running cryptocurrency projects in the market. The new DMDv4 leverages the strengths of Ethereum, Bitcoin, and the original Diamond to create a fast and secure low-cost blockchain for building and deploying dApps.

DMDv4 Advantages:

- High performance: over 400 tps thanks to dynamic block time;
- Complete censorship & fork resistance;
- High level of decentralization: uses dPoS & DAO governance;
- Energy-efficient: the total energy consumption is equivalent to several households - not to a whole country as in the case of Bitcoin;
- Instant transaction finality instead of multiple block confirmations: once a transaction is included in a block, it's final;
- Fair reward distribution: each active validator gets an equal share of the reward;
- dPoS-enhanced: users can stake coins on validators and earn attractive rewards;
- Scarcity: the supply is fixed at 4.38m DMDv4 – 5 times fewer than Bitcoin.

Functionality for dApps

DMDv4 is a Turing-complete solution that supports smart contracts & Solidity, making it easy to migrate existing dApps from other blockchains. It uses the Open Ethereum node client software and offers full EVM (Ethereum Virtual Machine) functionality. All this, together with the high processing capacity and extra-low transaction fees, makes DMDv4 a perfect platform for building all kinds of dApps.

Consensus

DMDv4 uses HBBFT (Honey Badger Byzantine Fault Tolerant) cooperative consensus mechanism. This algorithm has many advantages over competitive consensus models like POW (BTC/ETH/DASH) and POS/dPOS.

- Low energy consumption (there is no mining);
- Instant transaction approval – no need to wait for a confirmation from all the nodes (only 2/3+1 validators need to confirm);
- No forks (accidentally or intentional);
- Dynamic block time: creation of a new block can start just 1 second after the previous one – thanks to this there are no empty blocks;
- Malicious nodes are easily identified and eliminated.

The result is a more robust and secure blockchain capable of processing more than 400 transactions every second (as opposed to only 10 for the Bitcoin blockchain or 20 for Ethereum).

Staking & Validation

- DMDv4 uses dPoS (delegated Proof-of-Stake) based node election mechanics to make the network as decentralized as possible and to reward everyone who contributes to the network.

- Validators are nodes (users) who confirm transactions and add new blocks to the blockchain. For their work, they receive a reward in DMD coins.

- A node needs to stake at least 10,000 DMD to become a candidate (be included in the pool of potential validators). Other users can stake their coins (min 100 DMD) on a candidate of their choice. No more than 50,000 can be staked on one candidate: this prevents a concentration of power.

- Users can change their affiliation at any time (i.e. re-stake their DMD on a different candidate).

- Every epoch (12 hours), the system selects 25 candidates to act as validators in that epoch. Each candidate's chances to get selected depend on how many coins are staked on them.

- Since the total supply of DMD is 4.38m and the minimum candidate stake is 10,000 DMD, there can be a maximum of 438 candidates, though the expected number is between 50 and 75.

- Every validator receives an equal share of the block reward. Up to 70% of the reward goes to the validator's delegates – this way all DMDv4 holders will be incentivized to stake their coins and participate in the network.

About DMDv4 coin

DMD is 5 times more scarce than Bitcoin: the total supply is 4.38 million (all issued at the same time and then gradually allocated). It is also highly distributed: the top 10 DMDv3 addresses hold only 13.5% of all DMD, and the 100 largest addresses account for only 48%.

All DMDv3 holders can claim DMDv4 coins (they don't have to give up their DMDv3 in the process, so it's not a token swap). Any wallet that supports WalletConnect custom Ethereum-type networks can receive DMDv4. How many DMDv4 a user will get depends on their balance at the moment of the upcoming DMDv3 network snapshot and on when they submit their claim:

- within 3 months after DMDv4 launch: 100% (1 DMDv4 for every DMDv3 coin they hold);
- between 3 and 6 months after launch: 75% (the remaining 25% will be placed in the coin pool – or 'reinsert pot' for subsequent redistribution);
- 6 months to 5 years after launch: 50%. After 5 years, claiming will not be possible.

Reinserting lost coins into circulation

The most interesting feature of DMDv4 is the reinsertion algorithm, which solves the lost coin problem. All 4.38m coins will be placed in 4 pools, or pots:

1) Claiming pot: the number of DMDv4 coins in this pot is equal to the number of DMDv3 coins in circulation at the moment when DMDv4 is launched;

2) Delta pot: 4,380,000-(the number of coins in the Claiming Pot); the pot is one of the sources of epoch rewards;

3) Reinsert pot: 50% of DMDv4 left unclaimed go into this pot and are used as another source of epoch rewards, together with the coins in the Delta pot. If a validator remains inactive for 10 years, the coins staked on them (both their own and staked by others) are also sent into the Reinsert pot (this way DMDv4 recycles abandoned coins).

4) Governance Pot: the other 50% of DMD4 left unclaimed go into this pot, plus 10% of the epoch rewards. The DAO of DMDv4 holders will vote and decide how to use the coins to promote the DMD project (upgrades, marketing, etc.), as well as allocated funding for developing new projects in the DMDv4 ecosystem.

Thanks to this system, all unused coins will be eventually returned to the system and used productively. This allows DMDv4 to remain sustainable with a small total supply of coins.

Governance

Validator candidates will be able to vote on system changes, upgrades, funding requests, etc. Submitting a proposal for a vote will be subject to a fee, and everyone will be able to participate in the discussion.

Validator candidates will vote on their own behalf and on behalf of all the users who staked DMD on them. While a validator can change their decision before the vote is over, their delegates may switch their allegiance to a different candidate if they see that their present validator tends to change the opinion at the last moment.

Team

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