

ZVCHAIN

ZVChain Coin Handbook

12st August 2019

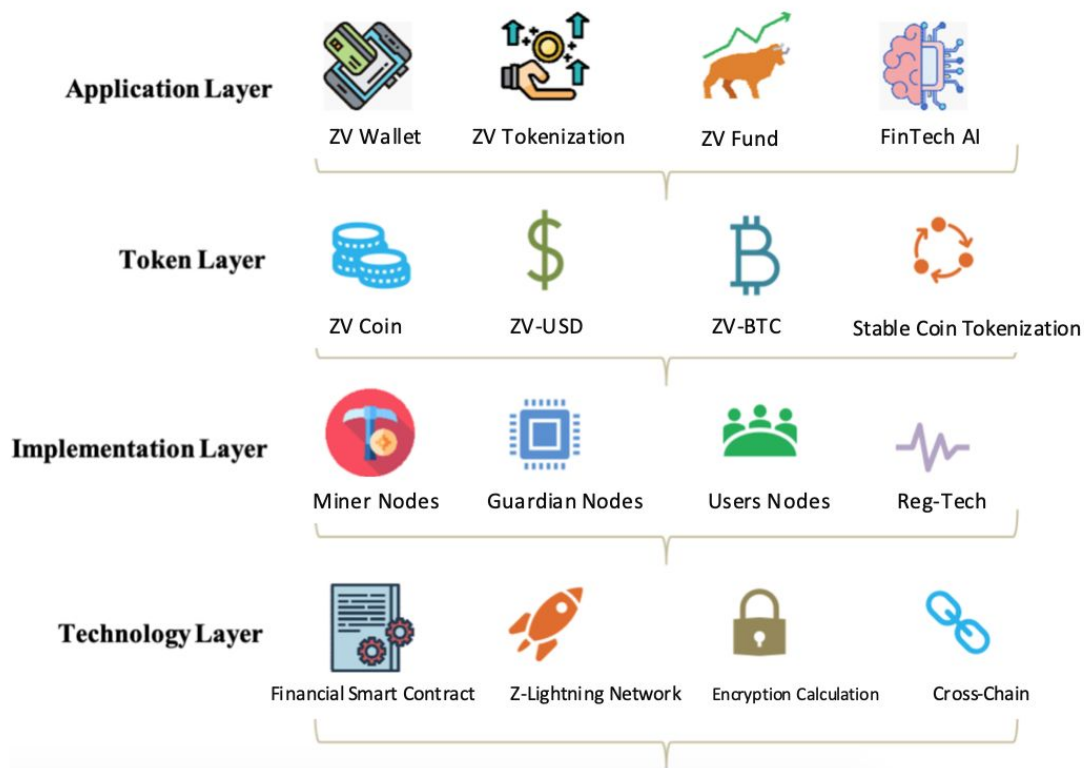
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PROJECT SUMMARY

Introduction to ZVChain

ZV Public Chain is a public chain that boasts high security and robust performance optimized for the adoption in financial space. It provides a decentralised account system that conforms to traditional financial logic.

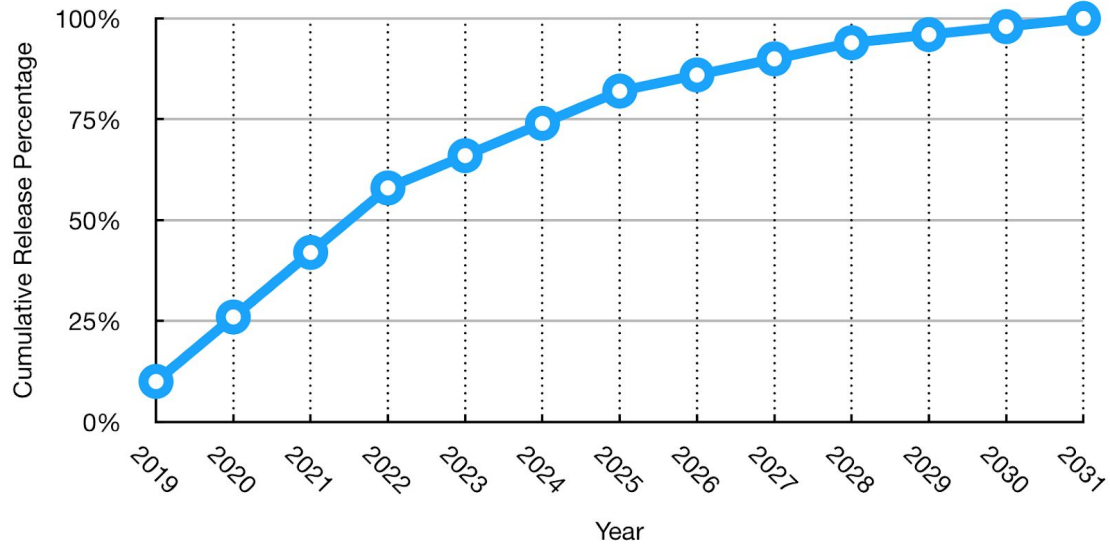
ZV Coin is a cryptocurrency used in the ZVChain ecosystem as the fuel for network. Through a compact infrastructure design, it achieves a balance between privacy and data security features. Users will have the option to select their transactions recorded on the blockchain to be in the form of public or encrypted private data.



ZV Coin Introduction

ZVChain employs a combination of PoW (Proof of Work) and PoS (Proof of Stake) for its mining reward mechanism. ZV Coins will be deployed as the main network assets of ZV Public Chain. It also serves as the underlying network infrastructure that supports the ZV Public Chain.

○ ZV Coins Release Schedule Graph



The total amount of ZV Coins in circulation will be capped at 5 billion. The average block time is 3 seconds. In the early phase, 80 ZV Coins will be rewarded for every block mined. The reward will be halved after every 30 million blocks. All ZV Coins are expected to be minted within 12 years.

ZV COINS RELEASE SCHEDULE

No. of Blocks	Year	Block Rewards in ZV Coins	Annual Release of ZV Coins	Cumulative Release	Release Percentage
Genesis Block	2019	5,000,000,000	500,000,000	500,000,000	10%
10,000,000	2020	80	800,000,000	1,300,000,000	26%
10,000,000	2021	80	800,000,000	2,100,000,000	42%
10,000,000	2022	80	800,000,000	2,900,000,000	58%
10,000,000	2023	40	400,000,000	3,300,000,000	66%
10,000,000	2024	40	400,000,000	3,700,000,000	74%
10,000,000	2025	40	400,000,000	4,100,000,000	82%
10,000,000	2026	20	200,000,000	4,300,000,000	86%
10,000,000	2027	20	200,000,000	4,500,000,000	90%
10,000,000	2028	20	200,000,000	4,700,000,000	94%
10,000,000	2029	10	100,000,000	4,800,000,000	96%
10,000,000	2030	10	100,000,000	4,900,000,000	98%
10,000,000	2031	10	100,000,000	5,000,000,000	100%

COIN DISTRIBUTION AND MINING

ZV Coin Distribution Model

The coin distribution model of ZV Coins will be as such:

- 10% of ZV Coins will be pre-mined in the genesis block and distributed to the early supporters;
- 70% of ZV Coins will be allocated to miners; and
- 20% of ZV Coins will be allocated to and managed by the ZV Foundation.

ZV Coin Mining

Miners are classified into three categories:

- **User Nodes.** Users can stake a certain amount of ZV Coins to be a single user node. As long as the user node address is active for a certain period of time, they will be a Qualified User Node.
- **Miner Nodes.** Users can stake a certain amount of ZV Coins to participate in mining. As long as the user node address successfully participate in the proposal and verification, they will be a Qualified Miner Node.
- **Guardian Nodes.** The Guardian Node can be upgraded by a full-stake proposal miner to provide ZVChain with a public RPC access server. The amount of requirements are provided in the figure below.

Block Height	Circulating Supply (Billion)	Increase requirements to be a Guardian Node (Billion)	Required ZVC Amount for Guardian Node (Billion)	Available Guardian Nodes
0	5	0.01	0.025	200
10,000,000	13	0.01	0.035	371
20,000,000	21	0.01	0.045	467
30,000,000	29	0.005	0.055	527
40,000,000	33	0.005	0.06	550
50,000,000	37	0.005	0.065	569
60,000,000	41	0.0025	0.07	586
70,000,000	43	0.0025	0.0725	593
80,000,000	45	0.0025	0.075	600
90,000,000	47	0.00125	0.0775	606
100,000,000	48	0.00125	0.07875	610
110,000,000	49	0.00125	0.08	613
120,000,000	50	0	0.08125	615

Mining Reward Model

- **User Nodes.**

Mining reward in Unit Time for a single qualified user node

*Mining Reward = Total Reward for All User Nodes in each block * Weight Ratio of specific qualified user node*

$$\text{Weight Ratio} = \frac{\text{The Number of Staked ZV Coins by specific qualified user node}}{\text{Total Number of Staked ZV Coins by all qualified user nodes}}$$

◇ The calculation model of Weight Ratio may be adjusted in future.

- Guardian Nodes.

Mining reward in Unit Time for a single qualified guardian node

*Mining Reward = Total Reward for All Guardian Nodes in each block * Weight Ratio of specific qualified guardian node*

$$Weight\ Ratio = \frac{\text{The Number of Staked ZV Coins by specific qualified guardian node}}{\text{Total Number of Staked ZV Coins by all qualified guardian nodes}} * \frac{\text{The Number of effective confirmation by specific qualified guardian node}}{\text{Total Number of effective confirmation by all qualified guardian nodes}}$$

◇ The calculation model of Weight Ratio may be adjusted in future.

- Miner Nodes.

Mining reward in Unit Time for a single qualified miner node

*Mining Reward = Total Reward for All Miner Nodes in each block * Weight Ratio of specific qualified miner node*

$$Weight\ Ratio = \frac{\text{The Number of Staked ZV Coins by specific qualified miner node}}{\text{Total Number of Staked ZV Coins by all qualified miner nodes}}$$

◇ The calculation model of Weight Ratio may be adjusted in future.

- Mining Allocation

1.40% of mined ZV Coin will always be allocated to User Nodes.

6.30% of mined ZV Coin will be allocated to Guardian Nodes, at the initial stage.

92.30% of mined ZV Coin will be allocated to Miner Nodes, at the initial stage.

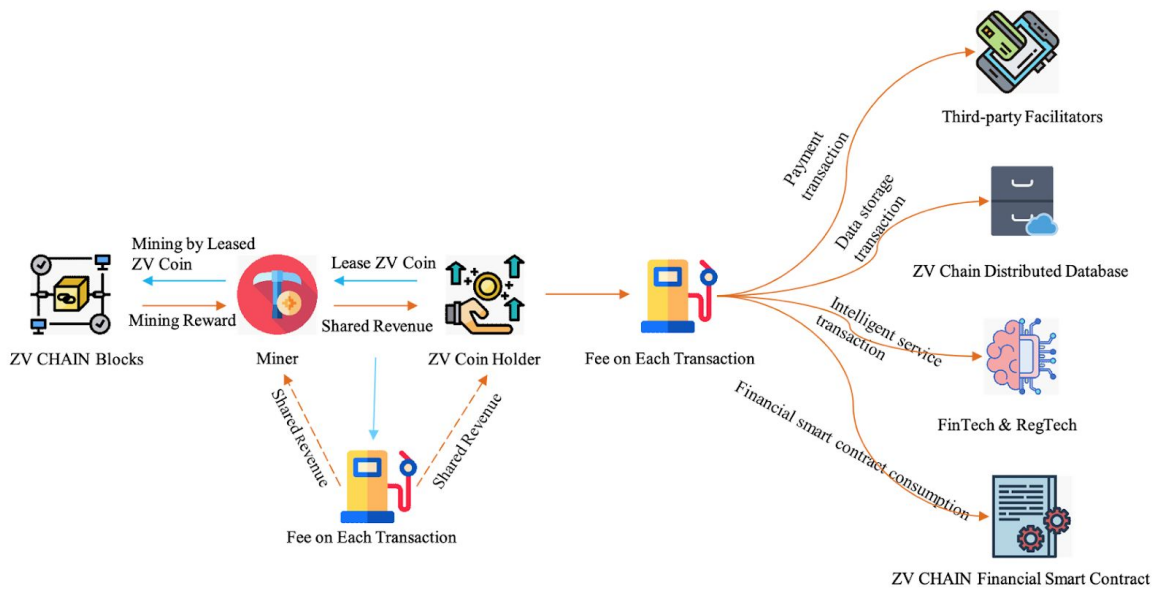
With the development of the ZVChain, the responsibility of the guardian node will become increasingly important. Allocation rate of Guardian Nodes will gradually increase from initial rate of 6.30% to upper growth limit of 20%. And the allocation rate of Miner Nodes will gradually decrease from initial rate of 92.30% to 78.60%.

ZV Coins in Circulation

ZV Coins will serve as the main network fuel for ZV Public Chain. Layer 1 will target to serve 3,000 TPS to achieve a balance of security and performance in early main network. In the early stage, the lower limit of consumption for every transaction in layer 1 will consumes 0.0002 ZV Coin. With every 30 million blocks generated, the lower consumption limit will increase at a double rate. When all the coins are released, the lower consumption limit for each transaction in Layer 1 will be 0.0016 ZV Coin and the rate will not increase at a double again.

Block Height	Layer 1 - Transaction Consumption of ZVC (Lower Limit)
0	0.0002
10,000,000	0.0002
20,000,000	0.0002
30,000,000	0.0002
40,000,000	0.0004
50,000,000	0.0004
60,000,000	0.0004
70,000,000	0.0008
80,000,000	0.0008
90,000,000	0.0008
100,000,000	0.0016
110,000,000	0.0016
120,000,000	0.0016

Transaction handling fees will gradually become one of the most important methods to support miners to generate new blocks, as illustrated by the following figure:



Team Development and Funding Allocation

Support received from early investors will be used for research and development of the public chain, business development, equipment and operations, marketing and public relations. The allocation is as follows:

