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Ginbit

The distributed decentralized financial system

Abstract

Ginbit is a third generation of blockchain. It is a distributed and decentralized p2p payment system with the ability to execute smart contracts and with a mechanism for stabilizing volatility utilizing an emission algorithm.

Introduction

The evolution of crypto-currencies has revealed certain strengths and weaknesses concerning volatility and its effects on the development of projects associated with various types of blockchains. Facts reveal that volatility can be an inherent strength within the crypto-economy, and was necessary for the successful promotion, the creation of popularity and anticipation in markets. However, volatility can also undermine the development and use of crypto-currencies as they apply to payments, micropayments, accumulation and preservation of capital, investments and profit-sharing.

What is evident is the need for a system which can utilize the advantages of blockchains. Such advantages include decentralization, absence of trusted third-parties and anonymity, all of which contribute towards a solution to the problem of volatility associated with the use of crypto-currencies in everyday transactions, while simultaneously fueling market interest and enthusiasm in new payment systems, or in other words, keeping speculative expectations attractive.

In this document we outline a solution to the above problems by utilizing a modified ripple consensus protocol and a volatility stabilization mechanism using an emission-burn algorithm, these based on smart contracts and rules for participation in consensus.

Consensus

The system utilizes a consensus protocol similar to ripple. A description of the ripple consensus can be found here. The main difference lies in the choice of UNL nodes. Only the nodes of wallets with the license to participate in the consensus can be added in the UNL. A license for

participation in a consensus can be obtained by any wallet with a certain number of coins. Upon receipt of a license, these coins are burned. Licenses can be transferred from one wallet to another. The intent of such a system is two-fold. It is both a speculative asset and a means of obtaining passive and active income that is generated as a result of additional emissions, commission fees on transactions, and the smart contracts executed on the network.

Volatility Stabilization Mechanism (VSM)

The mechanism for stabilizing volatility is derived from continuous monitoring of the supply and demand of market currencies, as well as the emission/burn algorithm. The algorithm takes into account the desirable values of currencies as means of accumulation and payment.

The fundamental challenge as it relates to this mechanism lies in the monitoring of supply and demand. The Ginbit network overcomes this challenge due to the transparency of the blockchain and use of economic incentives in the form of zero commissions for wallets that possess a certain license. A description for this mechanism and related licenses is provided here.

The purpose of the emission is to stabilize the exchange rate by balancing supply and demand either by issuing or burning the currency. The algorithm for calculating and distributing additional emissions is described here. The additional purpose of the emission distribution is to stimulate the turnover of coins in the system and prevent scams by licensed wallets. It is provided by the possibility of negative emissions and scale of emission distribution .

Licenses

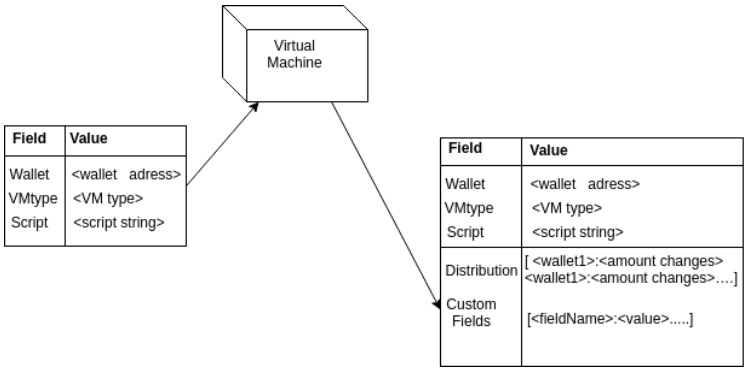
Licenses in the Ginbit network are consensus-confirmed messages indicative of the type of license and the wallet address. This information is saved in the blockchain.

Consensus participant license

The consensus participant license entitles the wallet to be included in the UNL and to participate in the consensus algorithm, this in addition to the calculation and distribution of additional emissions. The licence fee formula can be found here.
As well the license allows the wallet to send payments to new wallets and to accept payments without commission.

Smart contracts and Virtual machines

Various types of virtual machines can be connected to the system in order to handle the scripts contained in the transaction messages. The type of virtual machine is specified in the transaction message. The virtual machine, regardless of its type, must have access to the entirety of the blockchain. As a result of the script execution, virtual machines will supplement the transaction message with additional fields.



Any node has the right to connect to any virtual machine. This approach facilitates the creation of flexible, open and proprietary virtual machines capable of processing specific or encrypted smart contracts. Of course, not all UNL nodes will support all types of virtual machines. However, this approach, combined with the capabilities of the default virtual machine, will allow for the creation of distributed decentralized subnets with their own consensus rules.

You can find an example in the developers guide however, the idea of the script is to check all the messages from nodes which are working with custom VM and utilize these messages to calculate the transaction message.

Fees

All transaction messages are subject to a commission which consists of a minimum fee in addition to a fee depending on the type of virtual machine. All fees are collected from the transaction recipient or from payers of the commission if such a field is present in the transaction message. The exceptions are transactions wherein the sender represents a wallet with the gateway license and the recipient is a new wallet - a wallet that has never received coins before. In such cases the commission is not taken.