



VESTCHAIN

# WHITE PAPER

Description of the Project

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# What is VESTCHAIN?

VESTCHAIN is one of the newest projects, developed on its own blockchain, designed to implement and launch new cryptocurrencies onto the market. The main goal of the project is to create a network capable of processing millions of transactions per second. VESTCHAIN is a structural complex with a closed ecosystem. Decentralization and transparency of any transactions on the platform is accomplished by using application scaling. While using this process, the schemes of interaction between protocols are created, like the work of operating systems.

The work of this blockchain allows developers, investors, traders and simple crypto enthusiasts to implement their own cryptocurrency projects and the boldest ideas. Anyone will be able to buy a new token to operate in a decentralized network, because the sale will be carried out in parts, as the token will be redeemed.

The first stage of sales implies the release of 1 billion tokens, the second stage will be 700 million, during all subsequent stages will be issued 100 million of tokens annually. If the bulk of the tokens won't be sold during the current calendar year, the new lot will not be released and won't go on sale. This innovation will stimulate traders and founders of ICO projects to buy tokens. If the tokens won't be redeemed on time, the value of the token will also grow, since its free quantity on the market will constantly decrease. The first two lots of tokens constitute 50% of the planned volume, thus the release of new coins will continue for the next three years. If the coins won't be redeemed, the term of the final issue will be postponed for a year.

## **VESTCHAIN PURPOSE**

The purpose of VESTCHAIN is to create a decentralized blockchain that will be able to process fast and free transactions. The cryptographic component of this project will allow creating smart contracts on its basis, and developers will be able to develop dApps in simple and independent way. The basic concept of the project is to turn the VESTCHAIN into a platform that will function as an operating system, allowing it to be very easy to use.

Another goal of VESTCHAIN is to process millions of transactions per second. This will solve a big problem with scalability in other blockchain networks, especially Bitcoin. Today, many devices and programs can recognize smart contracts, but none of them is able to perform such operations quickly. Currently, the most popular network with its smart contracts is Ethereum, but it can process only 15 transactions per second. VESTCHAIN will significantly surpass this value, and the number of operations in the peak time will reach about 1 million.

### **DApps on VESTCHAIN**

DApps is the future of the Internet, already over a thousand of them are created on other blockchains, and our project is no exception. An example of dApp that could be used in the VESTCHAIN blockchain is the decentralized version of any social network where no one controls the network and no one can access the user's personal information. We are striving for decentralization in highest and truest sense of the word.

Such applications will find popularity in major companies that have a need to process from 50 to 100 thousand transactions per second. At the same time, safety will remain at an adequate level, regardless of the number of blockchain active users. The main consumers who will work on the VESTCHAIN blockchain are large enterprises, financial institutions, technological giants and, of course, social networks.

### **Easy to use**

Apart from the fact that our project can increase the speed of any network user on this blockchain, we strive to improve the usability of our product. The structure of smart contracts is very complex. For developers, a very difficult task is to insert specific, but basic functions in a smart contract, for example, account recovery and task scheduling. To create and maintain the work, the user needs to understand the basics of cryptography, but VESTCHAIN will solve this problem for you.

Using the operating system protocol, VESTCHAIN will include all the basic functions, allowing developers working on the blockchain VESTCHAIN to create the necessary contracts without having specific knowledge in the cryptography field.

### **How does VESTCHAIN work?**

Like many other smart contracts on blockchain, the main VESTCHAIN protocol will work in a similar way to the Ethereum network, but with a much higher transaction processing speed. The number of dApps processed by VESTCHAIN significantly exceeds its predecessor. All transactions can be performed at any time, without being tied to the time frame of any time zone. Initially, the number of transactions in the network will not exceed 15 thousand transactions per second. This amount is quite enough to reach the global level. Further, the number of transactions will increase, due to the increase in the number of network users.

How will the transaction processing speed be increased? To get an answer to this question, you need to understand how the system manages data. Each block can store a virtually unlimited number of operations. Since each block is a multi-layer cell, it can pack the entire operation in a more compressed form after the final filling of the main block.

The technology that supports the initial processing of data is called Proof-of-Work (PoW). But VESTCHAIN uses another major feature, which is brought by new consensus models: "Proof of Stake" and "Delegated Proof of Stake". Instead of using PoW, the VESTCHAIN blockchain will use a new consensus model, called delegated-shared (DPoS).

### **Consensus**

In VESTCHAIN blocks are generated every 5 seconds in stages of 50 blocks. The stage begins with the selection of unique producers for each block by voting, for which a schedule is created. The producers have the right to create a block in

order of turn. If the producer does not fulfill the generation of blocks within 24 hours, the system excludes it until receiving a message of readiness to resume work. This allows you to achieve continuous network operation.

For DPoS blockchains, forks are not typical; the producers of the blocks cooperate, and do not compete with each other. When fork occurs, the system switches to the longest chain of blocks. A chain with many producers grows in length faster, which means it is not difficult to determine the fork attempt. Producers who will try to create forks will be excluded forever.

In the DPoS algorithm, all producers participate in the generation of blocks, and a transaction confirmation occurs within 2 seconds after sending. In the event of a system failure, the network will require confirmation from most producers (40 of 50), which will take no more than 60 seconds. In this case, the problem block will be marked as mandatory. In case of forking, the producer will be switched to a chain with presence of obligatory blocks.

## **User Accounts**

VESTCHAIN will provide an opportunity to create user-friendly account names from 3 to 64 characters. The account creator chooses the name. When creating an account, it is replenished by a small amount of money, adding a record to the database. User accounts can interact with each other, namely, send messages and process incoming messages in automatic mode. For each account, a database is created and its own encryption key is released. Also, accounts will be able to delegate full or partial access rights to the database. This will bring the smart contracts to a new level and realize the opportunities for joint management.

VESTCHAIN will allow you to split management functions for a contract between users. By creating different access levels, you can determine what the user will be able to perform, and to which cells of your database he will have the access.

## Decentralized organizations (DAO)

The organization's creator configures the settings through the client platforms and invites users.

Balance = N;

The authorized capital of DAO consists of funds contributed by users. The transfer is carried out according to the principle: User - DAO. If users do not reach agreement within the set time from the moment of first payment, all funds are returned to the senders.

TIME = N;

Time of DAO creation during which all participants must make a statutory deposit.

INPUTSUMM = N;

Deposit amount from the user for entering the DAO

Users = N;

Number of users involved in creating the DAO.

The Creator sends invitations to future members of the organization by specifying their address.

MINUSERS = N;

Minimum number of users to accept the DAO conditions

Conditions = N;

The system's conditions are a set of pre-established requirements, the fulfillment of which is necessary for the performance of a specific action. For each action, a set of variables has been developed that users will use to create and configure conditions. In other words, the conditions are the rules of the game. To start the game, you need to define the rules, and then accept them.

The organization management configuration can be divided into rigid and flexible management. The first option is more bureaucratic, providing a higher level of reliability and safety of the asset by reducing the efficiency of decision-making.

The second is suitable for more active organizations, and provides a system of consensus and conflict resolution between participants. Mixed control is also possible, and in this model both methods are combined.

### **Facts and indicators**

Indicators contain the relation of one fact to another, and are expressed in the form [\*] и [+]:

[\*] – the logical multiplication of facts means that in order to perform an action, it is necessary to observe all facts.

[+] – the logical adding of facts, means that to perform an action it is necessary to observe at least one of the facts.

The fact is the consent of one or more users, the fact is expressed by an electronic signature, and it is a mechanism of rigid control. In the designation of facts, I will use the term ESU (Electronic signature of the user).

The signatures are of two types: simple and complex. The simple contain one signature, instead the complex ones contain two or more signatures and are called multi-signatures.

1.  $ESU1 * ESU2 * ESU3$  – the condition contains mandatory execution of 3 simple signatures
2.  $(ESU1 + ESU2) * (ESU3 * ESU4)$  – the condition contains mandatory execution of two multi-signatures. The second fact contains 2 mandatory signatures, and the first one presupposes the presence of one of the signatures.

### **Transaction conditions (TC)**

Transactions of the system change its balance. The creator of the system establishes a list of persons whose consent is required for the transaction. Depending on the structure and objectives of the DAO, you can set out the condition for the transfer of funds.

The configuration of transaction conditions is divided into 3 types:

- Condition for all transactions
- Conditions for the transactions greater than N
- Conditions for the transactions lesser than N

In this example, we will consider the DAO which consists of 5 users. The condition of the transaction in this organization is the signature of 3 users:

DAO; Balance = 100 VEST; Users = 5

$TC = ESU1 * ESU2 * ESU3$

In the following example, the transfer of funds requires the consent of one of the two users:

$TC = ESU1 + ESU2$

For complex hierarchical systems, the function of delineation of authority for transfers of funds is available. This means creating several parallel conditions for each transaction type.

$TC > 100 \text{ VEST} = ESU1 * ESU2$

$TC < 100 \text{ VEST} = ESU1 + ESU2$

To transfer funds in the amount of more than 100 VEST, 2 electronic signatures are required, to transfer funds of less than 100 VEST, one of the two signatures is required.

The number of conditions for each type of transaction has no limitations, otherwise, you will not be able to do this.

### **Condition for adding new user (CAU)**

Adding users is performed in the same way as in the previous example.

$CAU = ESUn * ESUn$

$CAU = ESUn + ESUn$



## **User delete condition (UDC)**

If the consent of the person is required to perform the action, and this consent cannot be obtained due to unforeseen circumstances (death, loss of data, etc.), a procedure for its delete from the system is performed without loss of personal rights (read - personal rights in DAO). In addition, the removal procedure can be applied to unscrupulous participants of the organization, which hinder its activities.

T - Time of user's absence on the network (in days) [optional]

ESUn-users - users whose signatures are required for confirmation (the signature of the deleted user is not considered during the voting)

$UDC = T + ESUn\text{-users}$

## **The condition for establishing ownership (CEO)**

The ownership right allows you to reserve the share for the owner in the system. If he leaves the system or is excluded, a part of the funds equal to his share is blocked by the system and redirected to the personal wallet of the user or to the wallet successor, and the released share remains in the ownership of the organization until its distribution. The right of ownership is expressed by the presence of voice tokens, which are displayed in the personal account of the user and reserve the ownership right for the organization.

Establishment of ownership rights is carried out at the stage of creating a system:  
 $CEO [100\%] = (U1=50\%) + (U2=50\%) - \text{User1 and User2 divided among themselves equal shares in the organization}$

The undistributed part remains in the ownership of the organization until it is distributed by its participants. To change the undistributed share, the condition is set.

This distribution of tokens can be revised, for example, when a user enters or leaves the DAO. For this purpose, a condition is created where, by agreement, users transfer votes to a smart contract, after which the smart contract distributes voice tokens between the participants in accordance with the specified shares.

Distribution of ownership (DO) = ESU1 \* ESU2 \* ESU3 \* ESU4

### **Transfer of ownership (TO)**

The procedure for transferring ownership rights is established by the participants of the system. It can be open or closed.

In an open organization, a user can transfer / sell a share to persons who are not users of the organization. From the moment of obtaining rights, they become participants of the organization.

In a closed organization, transfer / sale is possible only among its participants. To transfer rights to a non-member, you must first add him.

### **Change of conditions (CO)**

If a member wants to change the current condition, he enters the management section and initiates a change of the condition: he must choose the condition, create new requirements, and take it out to vote. The procedure for changing is determined when creating the DAO, two variables are set:

- The circle of persons who have the right to initiate a change = Users
- Required signatures for acceptance = ESUn

#### Consensus (Con)

Consensus is a flexible management tool that allows you to make quick decisions without waiting for the answer of all the participants of the organization. The mechanism is very simple, it contains two variables:

- ESUn – electronic user signatures required to perform the action.
- Quorum – minimum number of signatures required to decide

$$\text{Con} = [\text{ESUn}] + [\text{Quorum}]$$

Consensus is possible for any action. The parameters of the consensus are set for specific actions by participants.

Example:

$$ESU_n = ESU_1 + \dots + ESU_{20}$$

$$\text{Quorum} = 11$$

Our consensus consists of 20 people, for the decision we need to get the signature of 11 participants. Users of DAO establish the following conditions:

Transaction Condition (TC)

$$TC > 1000 \text{ VEST} = \text{CON} * ESU_1$$

$$TC < 1000 \text{ VEST} = \text{CON}$$

To make a transaction for less than 1000 VEST, we need to obtain consent in the consensus, namely, the signature of 11 people. But for a transaction in the amount of more than 1000 VEST, one consensus is not enough, the signature of participant 1 is mandatory, without its consent the transaction will not be executed. In this way, you can set up any action, developing levers of management in your organization.

### **Internal management of DAO**

After setting up the conditions and creating an organization, its participants will receive a separate section with an organization, in which the DAO management functions will be available. The actions will be carried out through a separate tab in the organization section, after which they will be put to an open vote and, if necessary, be confirmed by other participants. Once the condition of action is confirmed by facts (signatures of participants), the contract is automatically executed.

More details about the management, how it is performed:

DAO's participants receive a set of basic rights upon entering the organization, these rights allow the participant to participate in the organization's activities:

## **The right of initiation**

The right to initiate actions of the organization, namely: to carry out internal and external management on behalf of DAO. In fact, this is a key right that gives the participant of the organization basic opportunities. For example, a participant wishes to make a transfer on behalf of an organization, so he fills in the appropriate fields: indicates the address and amount, after which the proposed action goes into the control section and becomes visible to others. The action of the participant is displayed in the control section and, if necessary, awaits confirmation from the designated persons. This right applies to all possible management actions. If there is an intruder among the DAO participants, he cannot cause significant harm to the organization, while others will be able to react quickly and delete him from the participants.

## **Right of Conservation**

Vests title to allocate and maintain the share in case of removal or withdrawal from DAO.

## **Inheritance right**

The right allows participants to specify the recipient of inheritance. In case he does not appear on the network for a certain time, all his property will be sent to the pre-established address. This will allow you to consider accidents and save your property. This right is enjoyed by all users, not only by DAO participants. It is configured as follows:

$T$  (absence time in the network in days) =  $N$

Heir = wallet successor

Any action taken in the DAO is recorded in its accounting book. Information about organizations and their actions is in the public domain. The accounting book contains information about the activities of the organization, namely:

- Information about organization
- Balance of organization
- Incoming and outgoing transactions
- List of participants of organization
- Performed actions of the organization
- List of participants in voting and their decisions

### **Parallel execution of applications**

VESTCHAIN confronts producers with the task of delivering messages to different threads. To implement this feature, the delayed message algorithm will be applied. In fact, a schedule will be drawn up for sending messages, and their delivery will be carried out at the next stage.

Sending and delivering messages from one user to another requires time. To minimize this, users should be given the opportunity to exchange messages within the block. For this, loops consisting of parallel threads are inputted into the block. Threads include transactions with messages whose delivery is scheduled for the next cycle.

Block

Cycles (successive)

Threads (parallel)

Transactions (successive)

Messages (successive)

Recipient and Notified Accounts (parallel)

Inside the block, there will be an analysis for the absence of threads that change the same account. The block producer can add cycles during the entire block generation period.

### **Assessment of the blockchain state**

As part of the network scaling, VESTCHAIN is divided into modules. To organize a network node, the possibility of customization was implemented. After the core is installed, a sub-set of applications can be selected for the node, for example, to organize an exchange or work with social networks. In this case, the node will only accept messages addressed to the selected applications. The node will ignore the remaining messages.

The states of communication between users are transmitted through messages included in the blockchain, which means that one account cannot synchronously call another account, and excludes the attempts to substitute account information.

Block producers independently assess the complexity of the block and the time for confirmation of transactions and automatic messages in smart contracts. Inside the network, all transactions have a fixed payment for bandwidth, but the block producer has the right to calculate the cost of capacity and make a conclusion about the consumption of excessive amounts of resources. In this case, the manufacturer has the right to refuse to perform this transaction.

The refusal to perform the transaction will be confirmed only if all producers will consider this transaction as not valid. For these transactions, the producer search may take up to a minute. If the producer attempts to manipulate such blocks, a voting procedure will be initiated for his deleting.

## **The token model and the use of resources**

Any blockchain has a resource base limitation and has a need for a security system. The main resource classes of VESTCHAIN:

- Bandwidth and Log Storage (Disk)
- Computation and Computational Backlog (CPU);
- State Storage (RAM)

The blockchain stores the history of all messages. Any of the network nodes must download and store a complete history for network synchronization, which makes it possible to restore the state of any application.

The computational backlog is used to deploy the blockchain state, in other words, a list of calculations necessary to restore the network's history. When it becomes too large, state snapshots are performed and the past history is discarded. This parameter requires constant monitoring.

The state of the system is information received from applications. It includes account balances and orders. Only those states that are read by the application are stored. For example, if the application logic does not use post or comment content, then this information will not be stored in the blockchain state, but at the same time the fact of the existence of this post or comment, as well as other properties will be saved.

## **Network measurements**

The resource toolkit is subjective. Producers of the blocks independently control and fulfill restrictions on the use of resources considering their algorithmic schemes. However, some things can be measured objectively, for example, the amount of data stored in the database or the number of messages can be measured quickly and cheaply.

## **Payment of expenses**

In the world practice, the business pays for itself office expenses, computing power and other costs. The consumer receives at his disposal the final product. The business expenses for the organization of the work process are covered by the sales income of the product. For example, a social network does not force users to pay for maintaining servers, offering instead paid services. Also, applications based on the blockchain should not oblige customers to bear the costs of using it.

In the network VESTCHAIN there is no payment for the use of the blockchain, which creates favorable conditions for the business to develop its own strategy for selling final products.

## **Delegating capacity**

The VEST token holder on the running software can lease the bandwidth for other network users. In this case, the producers of the blocks find such proposals and distribute the bandwidth to these nodes of the network, paying for the service with tokens.

## **The cost of the transaction and the value of the token**

The main advantage of the VESTCHAIN network is the complete independence of the bandwidth from the price of the token. To run a software based on VESTCHAIN, the owner must keep a certain number of tokens on his wallet. In this case, the application can run for unlimited time within the bandwidth and state allocated for it.

Such a system allows ensuring the independence of developers and users of VESTCHAIN from the cost of the token on trading platforms. The computing power, bandwidth and storage space can be increased by increasing the number of tokens on the account (shares in the network) and do not depend on the value of the token.



Block producers receive a reward for creating a block. Due to the value of these tokens, the manufacturer can improve conditions by purchasing new hardware.

### **Storage cost**

According to VESTCHAIN, the application developer must store tokens on the wallet, in order to maintain the state of the application until this state is removed. If the application state cannot be deleted, the tokens will be eliminated.

Any account on the network must maintain a minimum balance on the wallet to store data on the network. Gradually, the minimum balance will be reduced.

### **Block reward**

Block producers receive a reward for creating a block. To do this, a fixed number of tokens will be generated. Thus, the total annual release of tokens will always be constant and independent of external factors.

### **Community-friendly apps**

Along with voting opportunities for the best block manufacturers, the community can select useful applications (smart contracts). For choosing, the system of top-10 applications will be used. Voting will be conducted considering the number of tokens among users, the greater the number of tokens the account has, the more votes it has. Each wallet token is equal to one vote. Thus, 10 applications that receive the majority of votes will receive additional compensation for a specified percentage of the total annual issue of tokens. This promotion will be valid as long as the application is in the top-10 by the number of votes. An account owner can redefine his voice in favor of another app at any time. When changing top leaders, the new contract starts receiving tokens from the next block.

## **Management**

Management is the process of resolving issues relating to the consensus-building, which cannot be resolved algorithmically. The main source of power in the VESTCHAIN blockchain is the network token holder. Token holders transfer their power to the block producers and grant them limited and verifiable powers to freeze accounts, search for and fix defective applications, submit fork proposals to the basic protocol.

The feature to designate block producers is embedded in the VESTCHAIN software. When making changes to the blockchain, block manufacturers must approve them. When the block producer refuses to fulfill the wish of the token holders, they may initiate a vote to eliminate the producer. If the block producer makes changes without the permission of the network users, the testifiers of the full nodes reject the change process.

## **Account freezing**

In case of unforeseen errors in smart contracts or violations on the part of the account or the vulnerabilities found in its fragments, as well as excessive consumption of network resources, the block producer may decide to temporarily freeze such an account until problems are eliminated. Process initiated by one producer must be approved by the vast majority of producers. When problems noticed by the producer are removed, the account will be thawed and the exchange of messages with the network will be resumed. In case of abuse of power, producers may be excluded, and the account will be thawed.

## **Change account code**

If other actions do not allow the normal operation of the account to be restored, the block producer submits a proposal to vote on replacing the account code with a zero code without blockchain hardfork.

To confirm this action, you need to get the overwhelming majority of the votes of the block producers. Before replacing the account code, a backup inverse copy is created, encrypted with a special key. In case of illegal deletion of the account code, it can be restored.

## **Constitution**

The VESTCHAIN blockbuster makes it possible to set the terms of use for all users of the network that all network members are required to comply with, and these terms are called the “constitution”. This agreement defines the duties of users that cannot be described by code, allowing to regulate disputable situations. All transactions on the network have a hash constitution as a signature, linking the user to the contract. The function of the constitution includes ways to determine the basic concepts of the network and the options for their resolution.

## **Updating the Protocol and the Constitution**

VESTCHAIN initiates a process in which the following steps are required for the protocol:

- Block producers offer constitutional changes and receive 45/50 approval votes.
- Block producers support 45/50 approval during 30 consecutive days.
- All users are required to sign transactions using a hash of a new constitution.
- Block producers make the necessary changes to the source code to display the constitutional changes, and offer them to the community using a hash of code changes.
- Block producers support 45/50 approval within 30-day period.
- Code changes take effect 7 days later, giving all the complete nodes one week to update after the source code has been validated.
- All nodes that do not switch to the new code are automatically disabled.

The process of the blockchain updating and introducing new functions will take 2 to 3 months, and updates to correct minor errors without changing the constitution will take from 1 to 2 months.

### **Emergency changes**

The process of changing the code can be accelerated by the producers if a global network vulnerability was discovered and it poses a threat to users. To do this, the producer must initiate an additional vote and upon obtaining the approval of the rest of the producers the process of code replacement can be accelerated up to 5 days.

### **Scripts and virtual machines**

VESTCHAIN will be one of the best platforms for messaging between accounts, as well as the first platform for decentralized organizations of DAO. The technical implementation of the VESTCHAIN code is independent of architecture and technology, and can be built and integrated using the API.

### **Messages defined by the scheme**

To transfer messages between accounts, a conversion scheme is used between the json format and the byte code. Transactions are determined by the state of the consensus scheme.

### **Database defined by the scheme**

To speed up parallel transactions and minimize the computational debt associated with regenerating application state, VESTCHAIN separates three sections of logic:

- Validating that a message is internally consistent
- Validating that all preconditions are valid
- Recording a new state for applications

Validating that a message is internally consistent is read-only. It can be done in any cycle. Validating that all preconditions are valid, such as account balance, is read-only and can also be accelerated by a parallel use. Recording a new state for applications requires write access and must be processed sequentially for each application.

Authentication is the process of verifying the possibility of receiving and applying a message. When a transaction enters a block, the need for validation is eliminated.

Simultaneous work of virtual machines

VESTCHAIN is developed with the ability to run multiple virtual machines at a time, and this ability can be added if necessary. To use the VESTCHAIN software, you can consider the following virtual machines.

### **Web Assembly (WASM)**

This machine allows you to create high-performance applications and meets all modern standards. If you make some changes, you can use it as a sandbox. The advantages of this machine is the ability to develop contracts in popular languages, for example, C ++, there is also support for the product from the business. The Ethereum network has also developed a Web Assembly modification for creating a sandbox.

### **Virtual Machine Ethereum (EVM)**

EVM is used for many issued smart contracts and can also be adapted for VESTCHAIN blockchain. Contracts of this machine can interact with other applications of the blockchain.

## **Blockchain interaction**

One of the ideas of VESTCHAIN is to facilitate the interactions between the blockchains. For this, a simplification of the system for proving the existence of messages on the network and observing their sequence is performed. The details of the relationship and validation are hidden from the application developers.

## **Light Client (LCV)**

The main task of LCV is the generation of simple and easy evidences of confirmation. They can be tracked by any user tracking low-weight datasets. All that is required in this case is the proof of the transaction, its recording in the block and the inclusion of the block in the history of the selected blockchain. Simplifying interaction with the blockchains, we minimize transaction processing for clients.

VESTCHAIN allows the use of lightweight proofs for irreversible block headers after the point of transaction inclusion. The hash-based structure proves the existence of any transaction with less than kilobyte proof. There is no reason for the failure of creating blocks in this way, because the additional load with the production of blocks with hash-links is negligible.

For proofs on other chains, we can also optimize time, space and bandwidth. To check all the headers of the blocks (420mb per year), the amount of evidence will remain small. An easy-valuation algorithm can be implemented in the blockchain, under which the hash function of previous evidence is produced. The new evidence contains links to previously known proofs.

## **Connection delay between blockchains**

When connecting with another blockchain, block producer expects 100% confidence in conducting a transaction in another solution, after which it can be accepted as incoming data.

## **Proof of Integrity**

The main task in the interaction of blockchains is to prove the absence of rejected or missed transactions. This is easier than proving that all recent transactions are correct. VESTCHAIN assigns its unique identification number to each message for each account. The user uses these numbers to prove processing in the required sequence of all messages for the account.

## **Conclusion**

The VESTCHAIN blockchain is developed taking into account the experience of proven concepts and best practices in this field. The network will allow to reach a new level of user interaction and will simplify the creation of decentralized organizations. On the basis of this software complex, it will be easy to create and manage decentralized applications.

# Contacts

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