



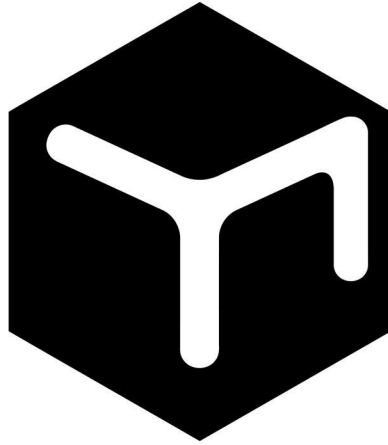
Relictum Pro

Blockchain 5.0

Decentralized Ledger Technology

Whitepaper

ver. 05 dec 19 | 2.06.en



Relictum Pro

Blockchain 5.0

Global platform covering all the aspects
of human life in a distributed registry

With the use of HYPERNET technology based
on peer-to-peer peering networks

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The essence of the project



2 — The essence of the project

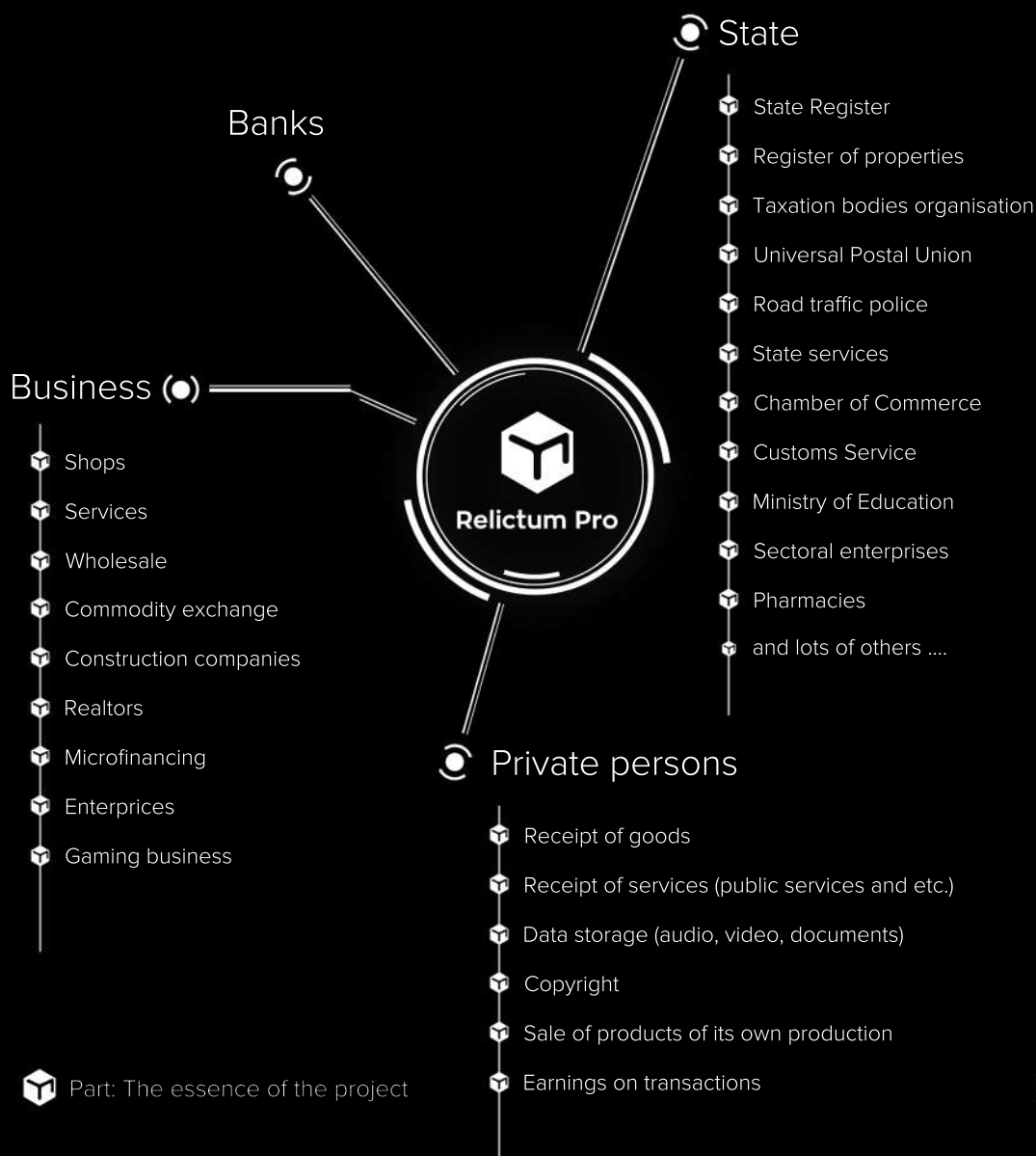
We have developed the fully-fledged distributed platform, a 100% reliable electronic data circulation environment for all parameters of human life.

Relictum Pro is a scalable, hyper-modern blockchain, with a view to the far future. This is a platform that can be used both with thin clients and with more powerful processors, basic stations, as well as with the latest electronic and computer technologies, including quantum computers.

A blockchain is a chain of blocks, and **Relictum Pro** is a system of event formalization having dynamic blocks in addition to the chains of blocks themselves. This greatly expands the possibilities and brings to another level of the mathematical apparatus, and allows you to create not only one-dimensional models of chains, but two-dimensional, three-dimensional, and even four-dimensional models of event formalization.

Relictum Pro is a full-fledged blockchain platform capable of operating in both private and public access for government, commercial and private activities.

Relictum Pro is an endless distributed registry with a developed system of smart contracts, describing (formalizing) any event in human life, ranging from buying and selling goods and services, recording logistic events, to tracking copyright and interacting with legal entities, including a number of self-executing transactions (smart contracts) in any field of activity.



We offer a fundamentally different blockchain organization scheme — Another principle of networking and building blocks.

1

The first mechanism

is the delivery method – networking as transport.

2

The second mechanism

is the development and management of block chains.

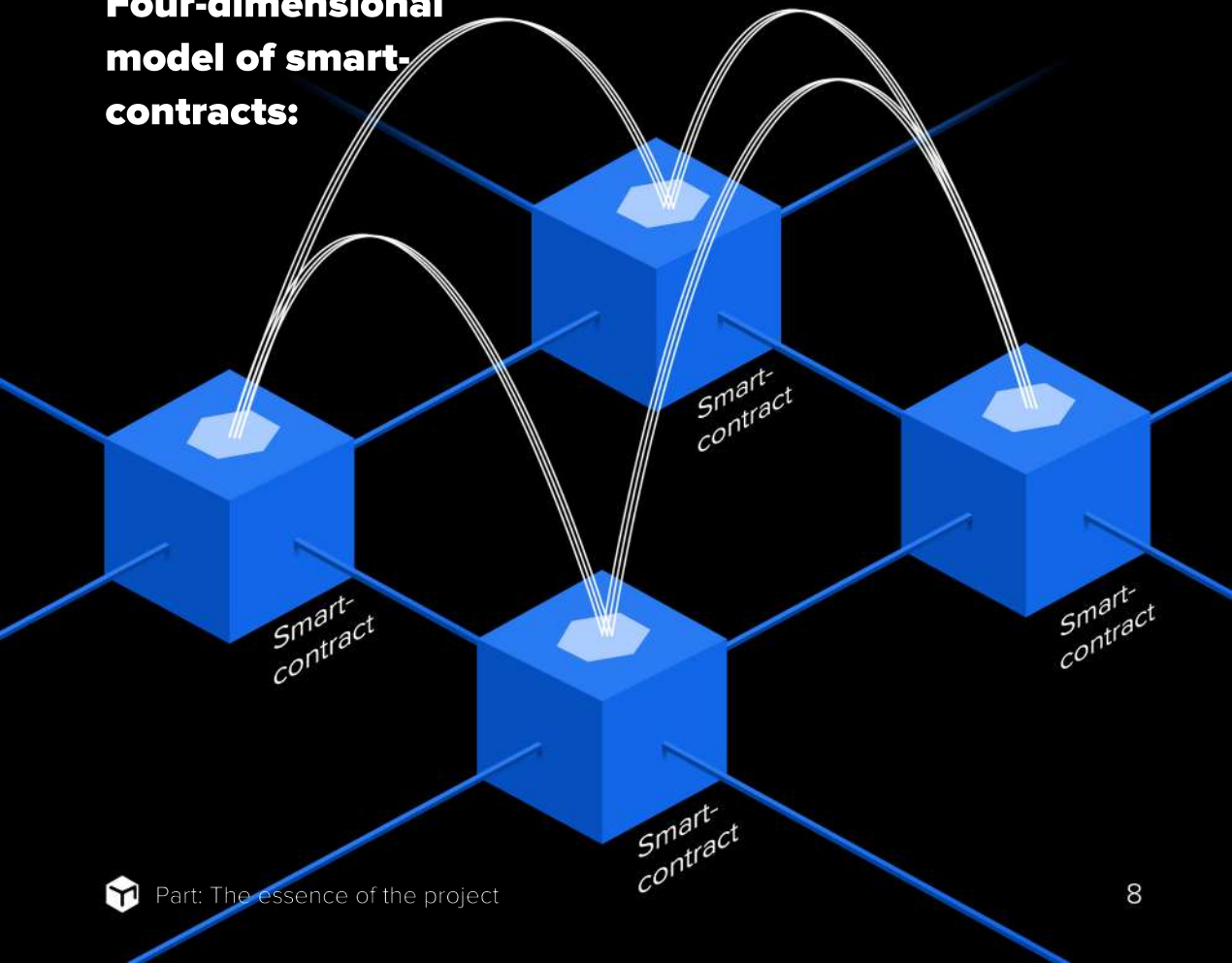
Relictum Pro is an endless distributed registry with a developed system of smart contracts describing more than 80% of significant events in a person's daily life.

Thanks to the possibility of smart contracts, an n-dimensional (4-dimensional) chain arise; when new type-properties of smart contracts appear, for example, in case of automatic conclusion of a transaction between several participants, when the chain is automatically closed, and a transaction is concluded between all participants (up to 10 transactions).

Also, the following properties arise:

- The possibility of the intersection of smart contracts and, thus, descriptions of the full type-properties of the product (the possibility of combining smart contracts into one, forming a "LINE of description").
- A blockchain **remembers** everything – this is an opportunity to get a virtual portrait of a person and, if desired, a participant can make a full sample of various aspects of their life (how much money they spend, what they listen to, what they watch and so on).

Four-dimensional model of smart-contracts:



Currently, modules and smart contracts have been developed, the platform is undergoing full-scale testing and we have achieved the following results:

100,000*

transactions per second

|_____|

Have been reached in real time at the moment

* — Results by `_Testnet;`

1,000,000

transactions per second

|_____|

The estimated network performance

When transactions not only get to the network but also blocks are written to each node when they return

- Own added modification of **SHA1-based** hashing algorithm;
- No problems of consensus (there are no problems and issues related to the solution of various ambiguities such as collisions, double waste, etc.);
- A block hash collision may occur in 100 years, due to the continuous numbering of each block in **Master_Chain**;
- Size (weight) of the node ranging from 120 to 300 bytes; according to calculations, in 20 years the registry weight can reach ~ 1 GB if you work with the bitcoin mode intensity;
- Full-featured real nodes in smartphones. That is in favor of full decentralization – a full distributed registry independent of third-party servers and services;

- The ability to store global data in a decentralized distributed repository – the choice of each participant to provide hard disk space and receive a commission;
- **Full-cranked** smart contract of accounting and logistics (for example: from planting a coffee bush – transporting – selling coffee – to accounting for a cup of coffee consumed by the end user);
- The following smart contracts are currently implemented:

1 **Signature of the document**
smart_contract

2 **Token generation**
smart_contract

3 **Storage of tokens**
smart_contract

4 **Conducting transactions**
smart_contract

- A fully functional portfolio for the user was formed (own decentralized exchange; cryptocurrencies exchange; own platform for holding ICO, Bitcoin, Ethereum and Litecoin wallet).
- The problems expressed by Nick Sabo are solved: when the in-house system of biometric face recognition generates a permanent unique hash of a person,

which is a private key during a transaction confirmation.



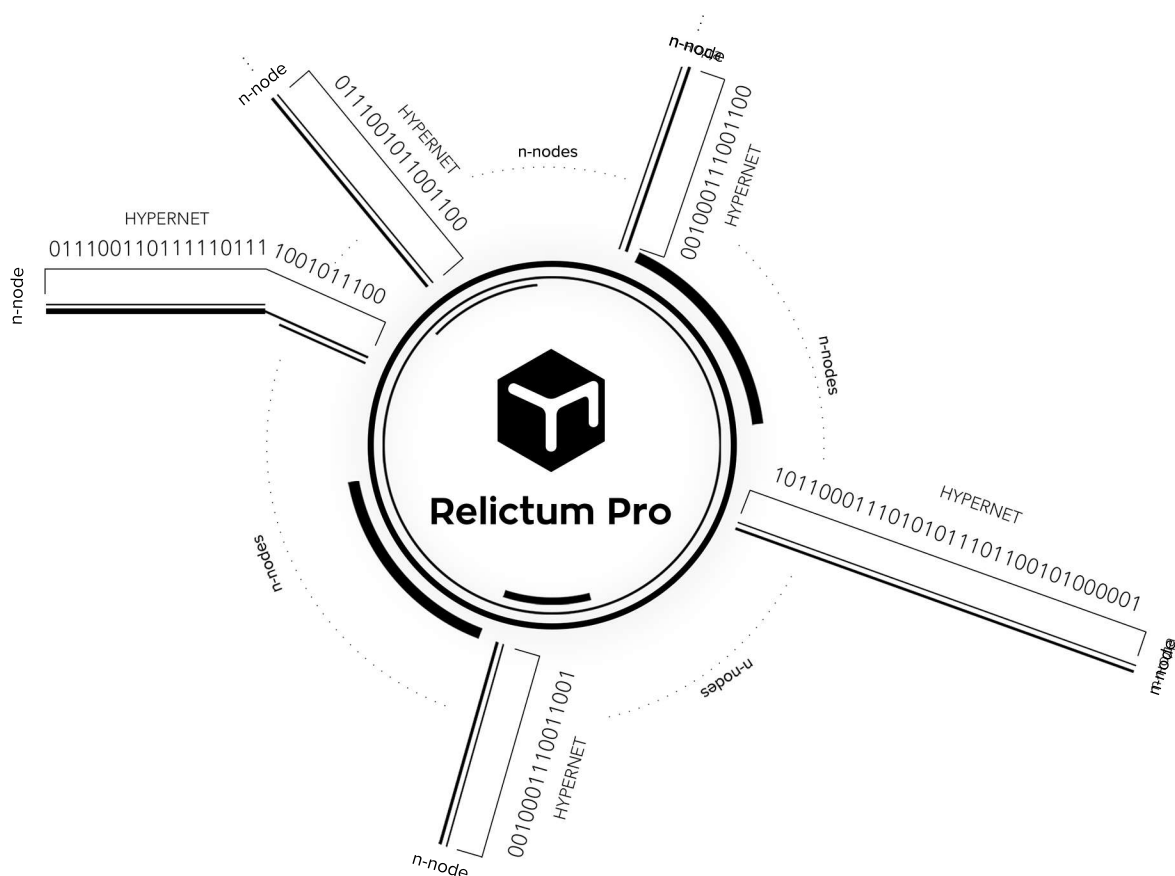
The results achieved for 1,000,000 people with identification accuracy of 99.99999%. After the release of the Alpha version, the calculated optimal amount of the definition of a person's face without intersection is 1 billion.

- A new _HyperNet_ system is being tested; it differs from the current organization of the blockchain network (peer-to-peer P2P networks).

Relictum Pro uses a virtual circuit switching network as a transport.

This network organization provides a permanent, guaranteed stable connection between all nodes for a limited period of time (from 0.5 to 10 s), depending on the network load. With a small network load, this gap can be up to 10 s, while with a loaded network it decreases to less than 0.5 s.

< 0.5 seconds



Network nodes are the nodes, the bodies of which are entirely identical and are binary files with the possibility to upload and manage the registry.

When first started, a node determines which type it belongs to:



Master node

All blocks are stored



Sleep node

The attempt to connect to the network.

Occurs either when the network is broken, or during the first launch.



Light node

Blocks are stored only for a certain period of time



Cloud node

Created automatically when a user registers via a web page. Further work is also carried out through the web page.



Private node

Only blocks of own transactions of this node are stored and updated

3

Introduction



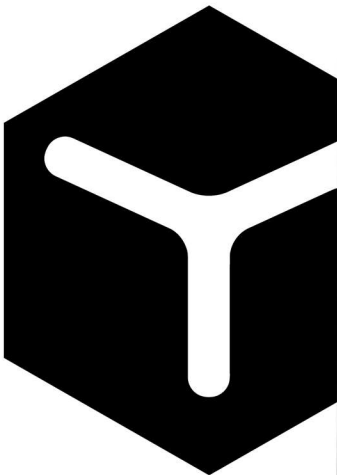
3 — Introduction

What is Blockchain?

It is a continuous sequential chain of blocks (a linked list) built according to certain rules; each next block has a hash of the previous block.

This is a global, large-scale distributed registry that works with a million computers and is accessible to everyone. Any values, from money to music, could be stored, moved, exchanged, and managed without powerful intermediaries (such as banks, corporations, up to the state itself). Information is distributed across the global registry. When people can trust each other everywhere and cooperate on equal terms.

And trust is based not on the authority of an organization, but cooperation, cryptography, and smart code.



```
mbp15:~ relictum dig seed.relictumchain.tech
; <<>>RELICTUM 1.10.2 <<>> seed.relictumchain.tech
;; global options: +cmd
;; got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 88401
;; flags: qr rd ra; QUERY: 1, ANSWER: 18; AUTHORITY: 0, ADDITIONAL: 1
mbp15:~ relictum$ dig seed.relictumchain.tech

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 512
;; QUESTION SECTION:
;; seed.relictumchain.tech      IN      A

;; ANSWER SECTION:
seed.relictumchain.tech  59      IN      A      8.208.52.66
seed.relictumchain.tech  59      IN      A      8.208.60.101
seed.relictumchain.tech  59      IN      A      14.0.12.9
seed.relictumchain.tech  59      IN      A      17.93.31.254
seed.relictumchain.tech  59      IN      A      142.85.96.4
seed.relictumchain.tech  59      IN      A      1.0.8.10
seed.relictumchain.tech  59      IN      A      1.0.8.12
seed.relictumchain.tech  59      IN      A      8.208.8.100
seed.relictumchain.tech  59      IN      A      1.202.0.94
seed.relictumchain.tech  59      IN      A      1.202.0.122
seed.relictumchain.tech  59      IN      A      13.107.184.89
seed.relictumchain.tech  59      IN      A      27.36.0.5
seed.relictumchain.tech  59      IN      A      42.96.108.249
seed.relictumchain.tech  59      IN      A      42.96.108.250
seed.relictumchain.tech  59      IN      A      42.96.108.251
seed.relictumchain.tech  59      IN      A      101.204.0.200
seed.relictumchain.tech  59      IN      A      101.231.147.172
seed.relictumchain.tech  59      IN      A      101.231.150.40

;; query time: 140 ms
;; SERVER: 192.168.4.1#53(192.168.4.1)
;; WHEN: Sat Mar 10 06:12:33 PDT 2019
;; MSG SIZE rcvd: 450
```


4

Historical review of the industry



4 — Historical review of the industry

2008

Create Bitcoin

2019

Start Relictum Pro

The history of Blockchain goes back to 2008 when the Bitcoin cryptocurrency came out.

In Bitcoin, a blockchain serves this cryptocurrency only with two smart contracts.

All the attempts to formalize the majority of events with smart contracts in a single blockchain platform have not led to success so far.

- The first generation blockchain consisted of the first currency such as Bitcoin, based on Proof Of Work (PoW), its various clones and forks. This bitcoin initiative is now called **blockchain 1**;
- The second generation of blockchain is more heterogeneous, based on the use of tokens such as Ethereum and solutions of its ecosystem. These two categories are characterized by very low energy efficiency and low transaction rates. we call it **blockchain 2** now ;

- The third generation of **blockchain 3** includes those with which they tried to answer questions regarding transaction speed and the impossibility of scaling using various mechanisms;
- Blockchain 4.0 - all the best features of 3rd generation blockchain (faster consensus, ultra-fast transaction confirmation) are included.
- **Relictum Pro** is Blockchain 5.0:



The new network will include all previous blockchain features along with revolutionary innovations

2008
Blockchain 5.0
Blockchain 4.0
Blockchain 3.0
Blockchain 2.0
Blockchain 1.0

2019

*

Blockchain 5.0

* — Blockchain 5.0 inherits all version properties

Networking:

At the end of the 70s – the beginning of the 80s, new types of networks appeared, as new types of processors appeared, network cards that had to exchange data with each other and a network protocol called x32 appeared. This protocol allowed connecting to computers of various network configurations: star, ring, mixed network communications — i.e., Ethernet.

It is still used in all network connections – inside data centers, WiFi. The protocol works over wired connections, radio channels, satellite channels, Ethernet networks. With the increasing number of computers and the distance between them, the use of Ethernet has become problematic.

Ethernet is a network protocol; it operates under the control of a circuit switching network, i.e., The channels themselves are commuting. The Internet is a packet switching network with four-zone addresses, the so-called IP addresses.

Addresses are interconnected at the time for transferring a single packet, and when the packet is transmitted, this connection is broken. Since the Internet does not allow to transmit a message without fail, this is accomplished by using a confirmation for which time must be spent, this protocol works at the upper network layer, including the application layer.

5

Problem



5 — Problem

With the development of blockchain technology and blockchain-based applications, new problems are emerging. For example, the inability to scale when applying this technology in large-scale projects, the lack of support for different business scenarios and the inability to exchange information and assets between different blockchains. This hinders both the technology itself and the development of the ecosystem as a whole.

At the moment, the really working blockchain is Bitcoin, the rest are based on Bitcoin – the so-called forks.

A blockchain is only a part of the cryptocurrency in these systems; it serves only its own cryptocurrency.

The main problem in the global community of blockchain system developers is the creation of a universal platform that can serve not only a single cryptocurrency, but also record logistic events, copyright tracking, arbitrating, storing data in a decentralized repository, as well as self-executing transactions (smart contracts) in any area of human activity. At the moment, the community is not yet able to provide such a universal platform. This is due to the fact that inertia of thinking does not allow one to go beyond the established stereotypes and opinions.

The main problems of modern blockchains:

- Large block size:

The bitcoin block size is 8000 times bigger than our block size

It is not advisable to accommodate all transactions that cannot be placed in a single block in a single block. This leads to a decrease in the speed of data processing, a decrease in the speed of data transfer, as well as a decrease in the speed of searching for the necessary information.

*
1,024,000 bytes = 1Mb

120 bytes



* — Example of bitcoin and blockchain 5.0 block sizes

- Energy consumption;
- Scalability;
- Transaction Rate;
- Organization of communication channels;
- Current P2P network organization:

A peer-to-peer (P2P) network does not allow you to create distributed registries at speed necessary to meet the needs of users.

- 51% attack problem;
- The problem of losing keys;

At the moment, they use the type of P2P network on which not only message transfer is built, but also storage of file fragments — distributed storages (based on packet switching (Internet), which implies delivery confirmation, unnecessary headers in the packet body, and also uses the central processor for the assembly of fragments. P2P was used for transferring files – for file sharing services. File sharing services were needed so that you could download movies, programs, and documents.

Principle of operation:

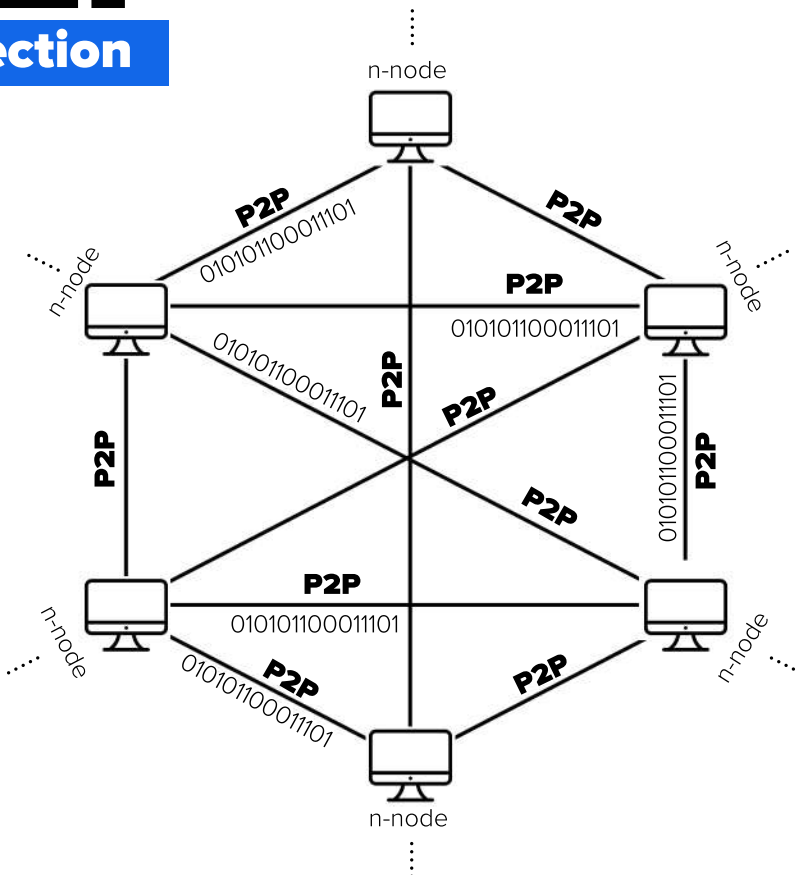
One node connects to several and in parts downloads data from other nodes. Thus, the download speed was close to the maximum value of the network card and the speed of a provider.

The disadvantage of P2P:

Today, it does not allow to work with a large number of nodes. Having a large number of nodes, the P2P network starts working with segments. Until one segment closes, the second does not unfold. Segmentation constantly occurs and from different sides, the segments start overlapping, the transaction confirmation time by all nodes increases, this affects the speed of distribution and the time of data transfer.

P2P

n-section



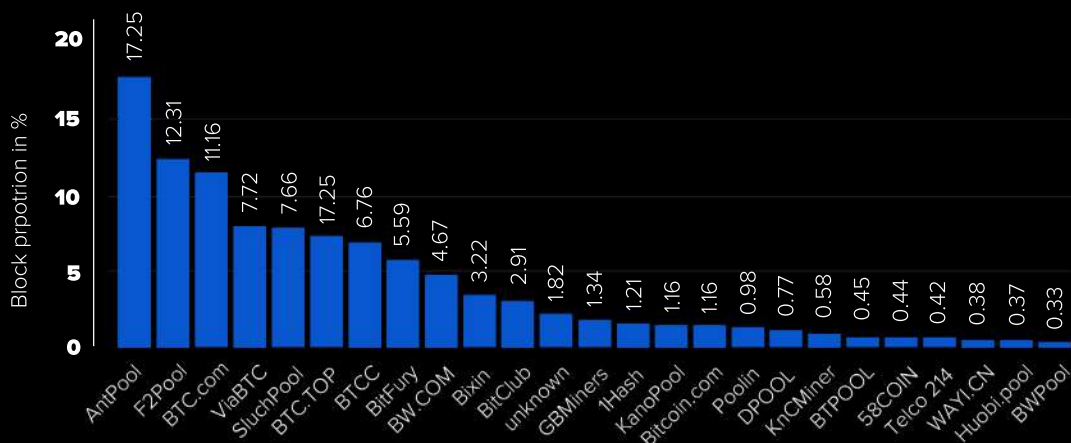
51% attack problem:

The 51% attack (actually from 46%, since not all network participants are able to vote at some point of time) is a term that means that an attacker must have more power than the rest of a network, a kind of "controlling stake" of generating capacity. This is achieved due to the fact that the Network with a consensus makes the decision to conduct a transaction. For example, Ethereum network. (The larger is the network size, the lower is its performance) Many attempts were made to solve this problem using additional consensus. (For example, Casper in the air).

The problem of key loss:

A private key and a public key. After signing a transaction with a private key, a public key is needed to verify and authenticate the signed transaction.

The distribution of Bitcoin-blocks (3 january 2019)



6

Proof of Tsar organization mechanism



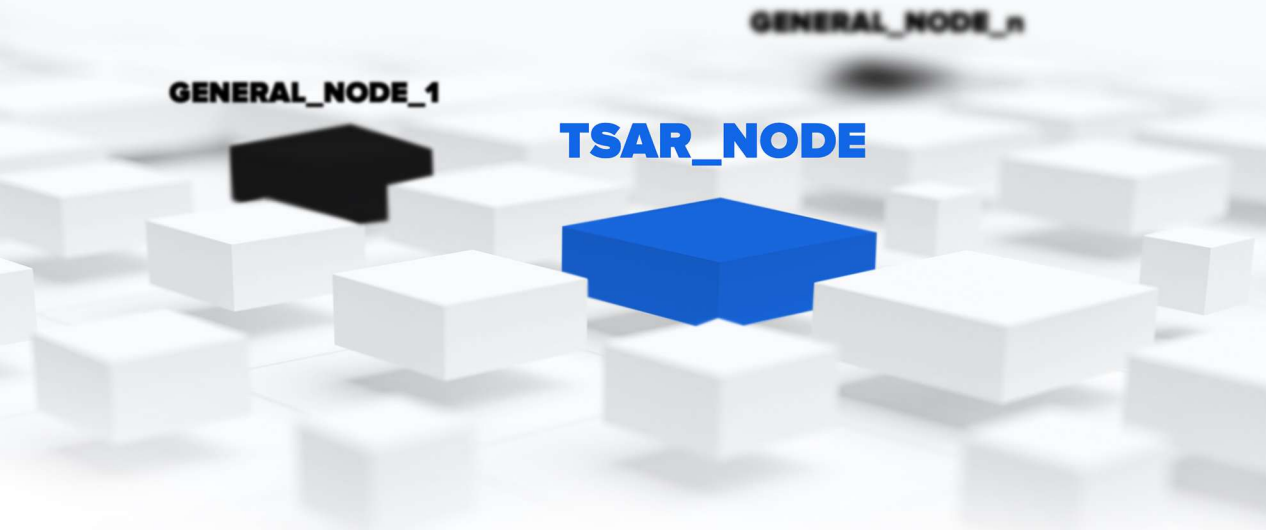
6 — Solution. Proof of Tsar

In order to solve existing problems, we propose several changes in the architecture of the blockchain, affecting communication protocols, network infrastructure, inter-network agreements, consensus algorithms, and so on.

Relictum Pro platform does not depend on the communication method, it is just a node, and how the message is delivered does not matter;

At the moment, **_HyperNet_'s** own communications technology is being used; it works over or on top of the Internet;

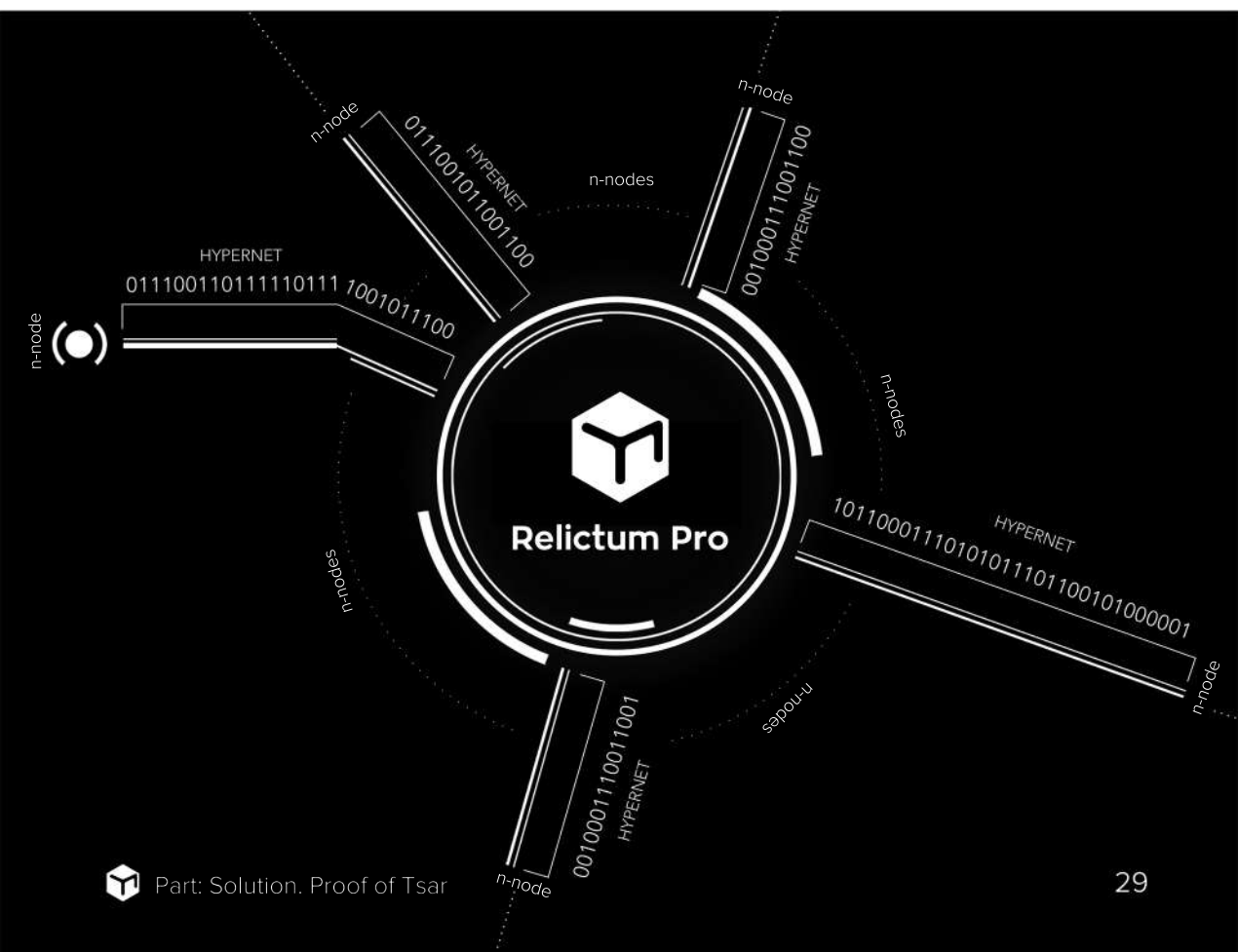
The following networking method in the future can be used based on Bluetooth, WiFi, satellite communications, i.e., channel switching based on Bluetooth and/or WiFi and other promising protocols



Networking is the first distinctive mechanism

The existing network organization of modern blockchains is peer-to-peer (P2P) network. Relictum blockchain platform uses a unique protocol based on the TCP/IP protocol, in which a virtual communication channel with each node is formed over the Internet. The advantages of this network are its reliable stability and isolation from the general segment of the Internet. In this virtual channel, only **Relictum Pro** information is transmitted, which increases the data transfer speed several times.

As a transport, we use a new type of network based on the fourth-level data network of the OSI model. **_HyperNet** is a virtual channel switching network.



The network provides a constant stable connection between all nodes for a small limited period of time (from 0.5 to 10 s), depending on the network load.

With a small network load, this gap can be up to 10 s, while with a loaded network it decreases to less than 0.5 s.

How does it work?

Network nodes are completely identical and represent a binary file with the possibility to upload and manage a registry.

When you first start the node, it automatically determines which type it belongs to:



Master node

All blocks are stored



Sleep node

mode of attempting to connect to the network. Occurs either when the network is broken, or during the first launch



Light node

blocks are stored only for a certain period of time



Sky node

Created automatically when a user registers via a web page. Further work is also carried out through the web page.

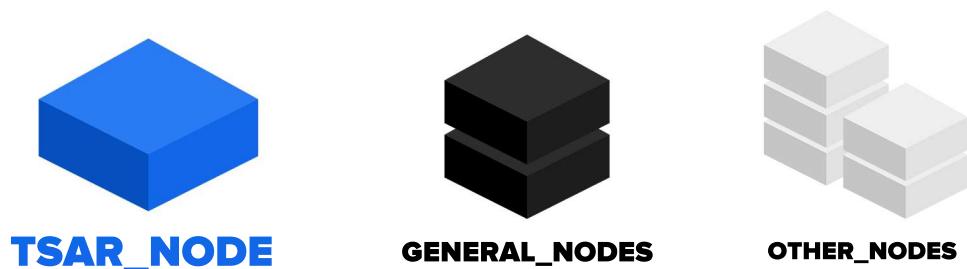


Private node

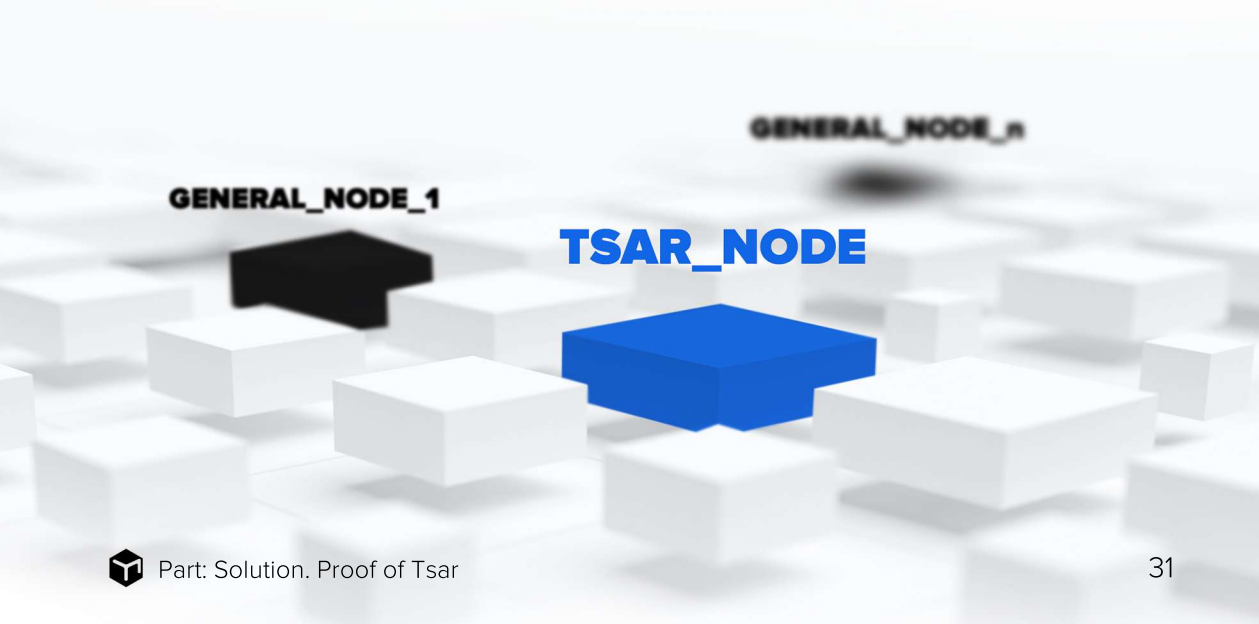
only blocks of own transactions of this node are stored

Proof of Tsar organization mechanism

There is a network regeneration every 0.5 sec (reconnection of all nodes), **like the regeneration of computer RAM, led by one main node – “Tsar”** and “Generals” standing under it, they collect transactions and transfer them to “Tsar” for processing. After that, “Tsar” gives blocks to “Generals,” and they distribute them further to everyone in the chain. "Tsar" and "Generals" are automatically selected and constantly changing.



Any node can be "General" and "Tsar." But “Tsar” in the next generation, after the regeneration of the network, can no longer be either “Tsar” or the “General.” Like a “General,” in turn, cannot be a “General” two times in succession.



We solved the problem of ambiguity

Thus, collisions of double expenses and other parasitic events disappear. At the same time, “Tsar” does not know that it is “Tsar” at the moment when it is “Tsar.”

Estimates show that the probability of a block hash collision may occur in 100 years, But this collision can only be with the hash that was 100 years ago, which makes it irrelevant. This is achieved thanks to the continuous numbering of each Master-block unit.

If the connection with the node is disconnected, the node goes into the sleep-mode (mode 4). When a connection is established with a node, the node passes the integrity check, checks the relevance of the blocks, and begins loading of the missing blocks. After that, the node goes into a network connection mode.

The ranking of nodes depends on the number of transactions that consist of:

- 1** The number of calls to the node – to the distributed repository for documents;
- 2** Time of presence in the network;
- 3** The number of generated transactions;
- 4** The number of transactions going through the node;

Block organization is the second distinctive mechanism

It is not advisable to accommodate all transactions that cannot be placed in one block in one block. This leads to a decrease in the speed of data transmission, as well as a decrease in the speed of searching for the necessary information.

The distinctive mechanism is as follows: only the hash of one event (transaction) is recorded in the block, it cannot be changed.

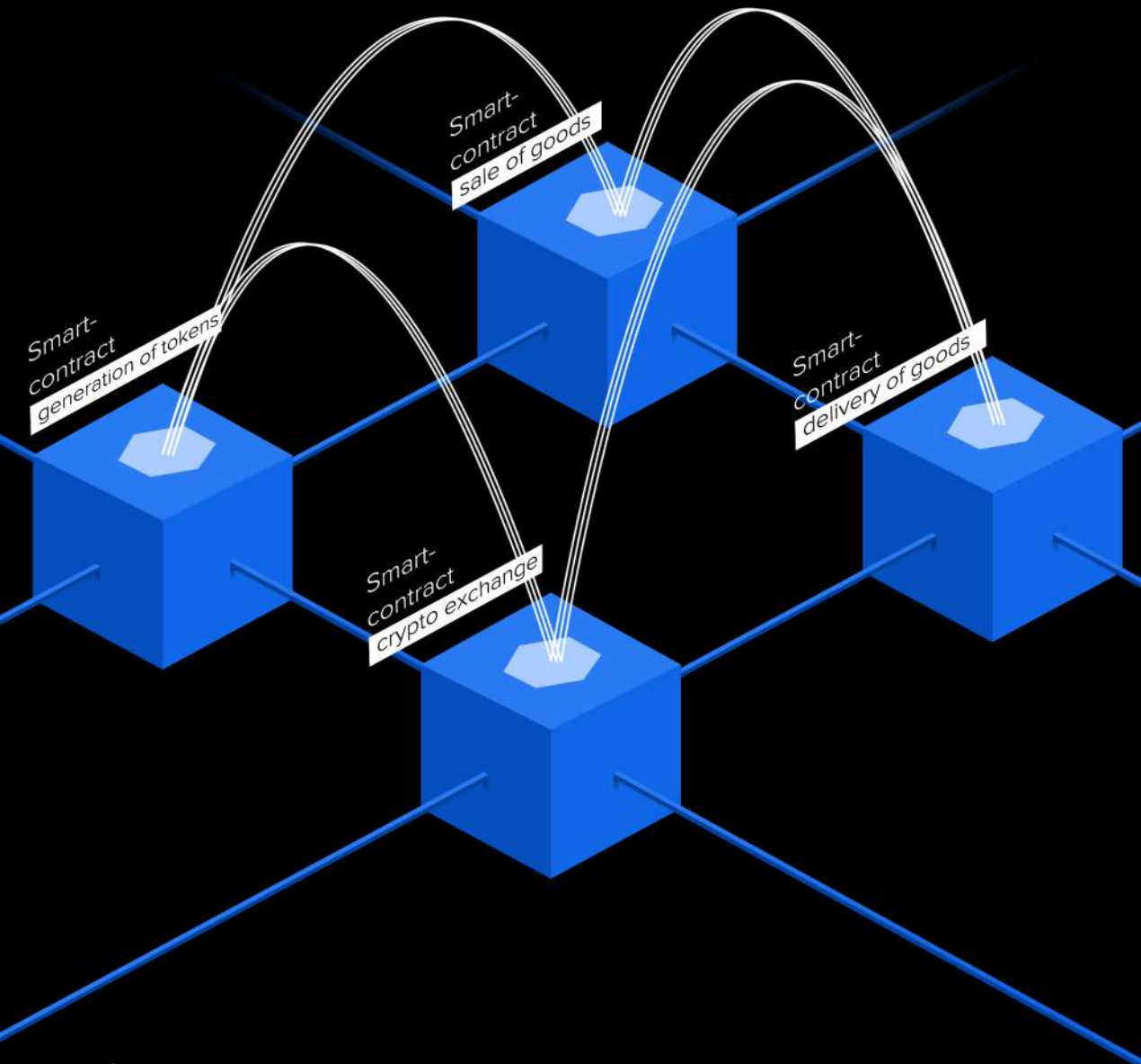
Thus, all kinds of collisions are swept aside. In addition to recording the event hash into the block, when forming a new block, the entire hash of the previous block and + integer value is taken (we put the sequential block number in front of the block). There is a main chain of blocks – **Master_Chain**, which contains only the hash of a block of lower and side smart contracts.

In parallel with the main **Master_Chain**, various independent chains are formed – these are smart contracts that organize the three-dimensional distribution, for example:

- **first smart contract** — generation of tokens;
- **second smart contract** — sale of goods through the store;
- **third** — a crypto exchange;
- **fourth** — delivery of goods, etc.

Thus, the organization of chains of smart contracts and the main **Master_Chain** leads to a four-dimensional model of the organization of distribution of blocks.

For example:



The following features of the Relictum platform appear:

- Smart contract independently monitors whether all conditions of a contract were fully fulfilled;
- Possibility to conduct operations with different types of smart contracts, the possibility to generate new smart contracts with new type-properties or property-types;
- Already today, in the **Relictum Pro** platform, a smart contract can be signed simultaneously between 10 counterparties.

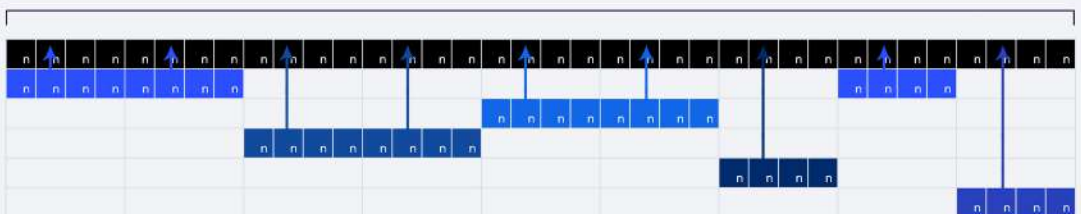
A block diagram is a smart contract:

MASTER_BLOCK #1



To formalize the main number of significant events in everyday life, it is necessary to form at least 500 smart contracts.

Schematic diagram of multi-smart contracts



 — smart-contract in Master_Chain

Each chain (smart contract) has an index, and each block of this chain has its own index in **Master_Chain**. In **Master_Chain**, it is indicated from which index of this chain the appeal took place, but in fact they come one after another. The number of possible new, embedded smart contracts is unlimited.



— index of each chain (of smart-contract) in **Master_Chain**;



— index indicators of chain embedded smart contracts;

Node (network node) – dynamics and functionality

The nodes are all identical. When initiating, each node determines itself and the group it belongs to (as an option, it is chosen by the owner of the node manually).

Full nodes are binary executable files that can be automatically initialized to:



Master node

All blocks are stored



Sleep node

The mode of attempting to connect to the network, occurs either when the network is broken or at first start



Light node

Blocks are stored only for a certain period of time



Sky node

Created automatically when a user registers via a web page. Further work is also carried out through the web page



Private node

Only blocks of own transactions of this node are stored. Topical for working on smartphones and weak gadgets

A node is, among other things, a portfolio, it includes:

- Possibility to create your own ICO;
- Possibility to create your own exchange;
- You can create your own currency (smart contract of coins, smart contract miner).

Internal opportunities

Relictum Pro allows you to confirm transactions within the network of current cryptocurrencies: Bitcoin, Ethereum, Litecoin, Dogecoin, etc. Transaction confirmations happen instantly. Even if Bitcoin has not reach the owner, a user can already immediately dispose of it.

The possibility to integrate third-party accounting systems, and documentation into the **Relictum Pro** platform.



Thus, the speed of Bitcoin transactions increases to the speed of transactions of the Relictum Pro platform network.

External features of Relictum Pro (network):

The platform network has its own SDK for all platforms on dynamic libraries and APIs with examples for all types of programming languages (Modula, Delphi, Python, C/C ++, etc.)

Relictum Pro ensures operation with not only SDK and API protocols, but also with own protocol of blockchain-platform at a low level – the socket protocol: high degree of protection, speed.

It uses its own data transfer methods that can transfer not only information, but also blocks, bytes, and entire files for external consumers. Can be used to organize external storage.

Hashing mechanism

Relictum Pro is a supplemented modification of SHA1-based hashing mathematics. The main advantage of it is in converting from 20 bytes to 32 bytes (in your own hash). This gives a high crypto-stability, including from a promising quantum computer.

SHA1
hashing
[More](#)



Solving the problem of 51% attack and other ambiguities

A single node, makes a decision within 0.5 to 10 seconds, the network is updated (regenerates) and another main node is selected, it collects instructions, forms blocks and distributes them to all nodes, i.e., the network changes dynamically every second. This gives an advantage, which excludes various kinds of ambiguities – collisions, double spending, and other things. **There are no standard consensus principles.** The more nodes are in the network, the better is the performance. This is achieved by the unique architecture of **Proof of Tsar** and the organization of the virtual circuit switching network.

Distributed storage

A distributed storage does not require confirmation of data receipt. Thanks to the organization of various chains of smart contracts, the system accelerates the search for fragmented files and their viewing. According to the empirical data, the download speed is significantly faster than the P2P network.

Advantages:

Storage of any digitized documents and a set of data, files in any volume with instant access to any stored information. Distributed data remains forever in the system, unlike any hosting.

The copyright is automatically organized with the recognition of intellectual digitized work and a pirated copy. The author's reward for the use of the work is automated, bypassing intermediaries (using the smart Copyright contract).

Secured storage and key management

The founder of the smart contract concept, Nick Sabo, put forward three unsolved problems:

- Secure storage and key management;
- Decentralized exchanges;
- Making second-level solutions more user-friendly, especially through automatic routing, at the same time, without neglecting the minimization of trust.

Entering the blockchain platform with two-step authorization solves the problem presented by Nick Sabo.

How does our biometric facial recognition system work:

A person's hash is taken, in conjunction with **SecureCall** – the confirmation of a transaction with a phone call. During a call, the user enters a password using a DTMF signal along with the following solutions:





- After a successful transaction, the private key loses its relevance, and the client is inevitably obliged to generate a new key (or this is done automatically);
- The public hash from the concatenation hash [**Token + pass phrase**] or [**Token + random text**] in binary form is recorded in the smart contract chain.
- It is possible to use 2 short keys with a sequential check, after checking the 1st key (regardless of the result of the check), it is proposed to enter the second key. The mechanism assumes, after the 1st check, to output a string that is the hash of the 2nd key, which means a hacker will need to pick up the 2nd key without knowing, in general, whether the hash of the 1st key is correct. To prevent hacking, it is possible to limit the number of attempts.


7

Review of competitors and comparison



7 — Review of competitors and comparison

Relictum Pro, cannot be compared with existing projects at the moment. **Relictum Pro** does not have the concept of “comparison with competitors,” since, bearing in mind the problems of modern network organization, **HyperNet does not use it anywhere in the way it is currently presented.**

Current blockchain	Blockchain  Relictum Pro
The competitors' blockchain systems are organized on P2P networks, which, with a large number of nodes, leads to inhibition of filling the entire network.	Relictum Pro network instantly self-organizes establishes virtual channels between node-node-node and guaranteed fills the network in 0.5-1s.
The average speed of filling the network (all nodes) with blocks (Bitcoin or Ether) existing for competitors, taking into account the confirmations, takes, on average, from 10 minutes to several weeks.	Relictum Pro transaction speed (the rate of filling the entire network with blocks in each node) takes from 0.5 to 1 sec.
Low bandwidth.	At the moment, the indicator reached 100,000 trns/s on the testnet network. Objective and calculated throughput capacity is up to 1 000 000 trns/s.

8

Distinctive features and advantages



8 — Distinctive features and advantages

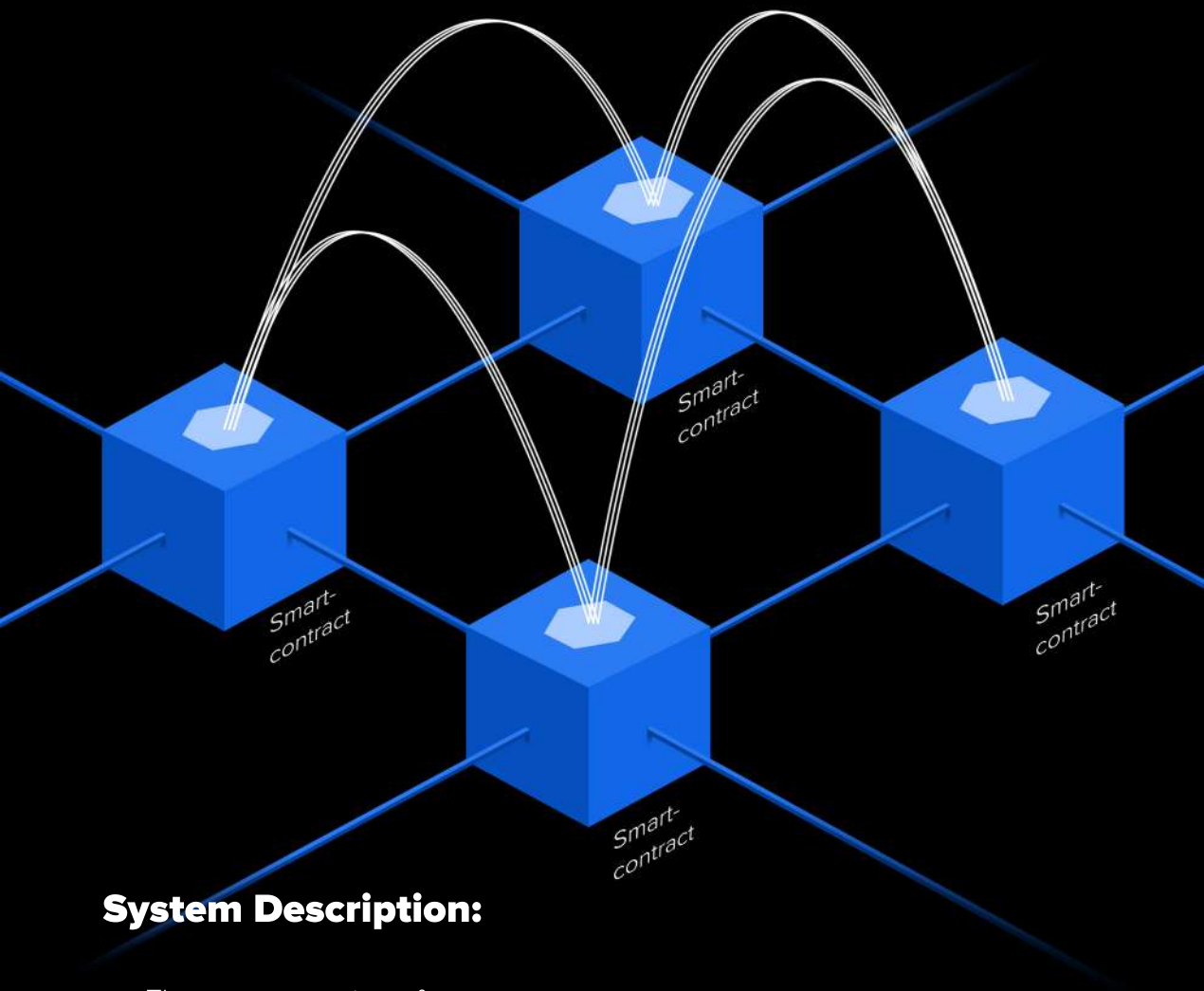
The number of possible embedded smart contracts is not limited in number and in time.

Cryptocurrency is one chain of smart contracts; tokens are the second chain of smart contracts; the third chain of smart contracts is operations in crypto-exchanges.

New properties emerge in the operation of all smart contracts in **Relictum Pro** developed by smart contracts:

1. The possibility of the intersection of smart contracts, thus describing a more complete type-properties of the goods;
2. A blockchain remembers everything is an opportunity to get a virtual portrait of a person and, if desired, a participant can make a full sample on various aspects of their life activity.

Four-dimensional model of smart-contracts:



System Description:

The system consists of:

- Nodes (can be installed on servers, computers, smartphones – these are nodes);
- HyperNet delivery method;
- Distributed storage.

Relictum Pro is a self-organizing, self-developing network, which is expressed in the constant self-ranking of nodes according to several criteria with the assignment

Criteria:

- Number of full calls to the node's storage;
- Presence in the network and falling out of the node both by the number of times and by time;
- Number of transactions initiated;
- Number of transactions passing through the node;



Blockchain 5.0 Ecosystem



Relictum Pro has several major features:

- Smart contracts are used to formalize any type of activity where an event occurs;
- Smart contract independently monitors whether some particular terms of the contract were fully implemented. At the same time, thanks to the **Relictum Pro** system itself, the code is absolutely protected from any third-party intervention;
- That is, no attacker can change the source code of a smart contract between two (or more) nodes;
- It is an opportunity to conduct operations with different types of smart contracts;
- Possibility to generate new smart contracts with new type-properties or property-types;
- In our system, a smart contract can be concluded at the same time between 10 contractors.
- The weight (size) of a single block in **Relictum Pro** is about 120 bytes, which is 8000 times less, compared to, for example, Bitcoin.

8000 times less, compared to Bitcoin

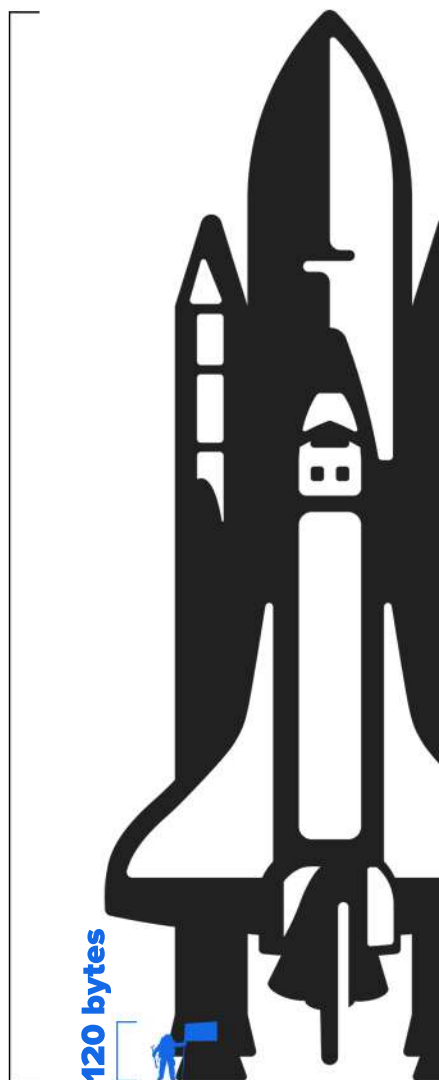
* — Example of bitcoin and blockchain 5.0 block sizes

The bitcoin block size is 8000 times bigger than our block size

It is not advisable to accommodate all transactions that cannot be placed in a single block in a single block. This leads to a decrease in the speed of data processing, a decrease in the speed of data transfer, as well as a decrease in the speed of searching for the necessary information.

* — Example of bitcoin and blockchain 5.0 block sizes

1,024,000 bytes = 1Mb*



9

Applications. Social significance



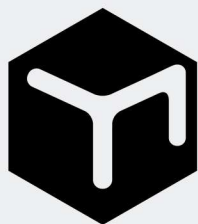
9 — Applications.

Social significance

Relictum Pro is a fully-fledged distributed platform, a 100% reliable electronic data circulation environment for all parameters of human life.

Relictum Pro is an ideal Blockchain system with a developed and unrestricted system of smart contracts with new type-properties, where several participants can initiate one event at a time.

Relictum Pro is a scalable, hyper-modern blockchain, with a view to the distant future, a product that can be used with more powerful processors, with the latest electronic and computer technologies, including optical and quantum computers.



Relictum Pro is a complete blockchain platform designed for public, commercial, and private activities.

Relictum Pro is a smart platform of a distributed registry of the newest generation, designed to formalize (describe) the economic life of a person to exclude intermediaries between participants and record any events (personal livelihoods, logistics, document flow, delivery, transportation, interaction with legal entities, etc.)

Solving the problems of existing platforms and having the most advanced parameters, Relictum Pro Blockchain can solve problems on a global economic scale, making our life simpler, more comfortable and safe, making processes transparent and honest.

BLOCKCHAIN 5.0

10

Tokenomics



10 — Tokenomics

0%

The cost of which is the lowest in the world – 0 %

Relictum Pro is a new-generation blockchain network in which you can conduct transactions with any electronic or digital currency, digital assets, cryptocurrencies, and fiat currencies, the cost of which is the lowest in the world – 0 %.



And the network speed is at least **1,000,000 transactions per second**.

There are three types of cryptocurrency in Relictum: genesis tokens (**GTN**), stable-tokens and Relict coins (**RLC**).

Let us consider in detail the tokenomic models of coins.

Genesis GTN tokens. Purpose. Emission volume and distribution procedure.

Genesis tokens are tokens expressing the intellectual property (IP) rights of the **Relictum Pro** software code, issued in the amount of **10 000 000 000 GTN**. **Genesis Token** is distributed in the course of the corresponding ICO or IEO rounds among early investors who believed in the mathematically sound concept of **Relictum Pro**.

Why are funds raised?

Investments are necessary for the implementation of three objectives:

1. Construction of a blockchain network with over 1000 nodes;
2. Creation and further development of the **Relictum Pro** project;
3. Marketing expenses.

Genesis tokens give the right to receive royalties for the use of the intellectual property (IP) of the Relictum Pro software code in the amount of **19%** of the forging (emission) size of **RLC**

Tokenomic model of GTN tokens genesis

Total emission genesis of GTN tokens,
pcs

10 000 000 000 GTN

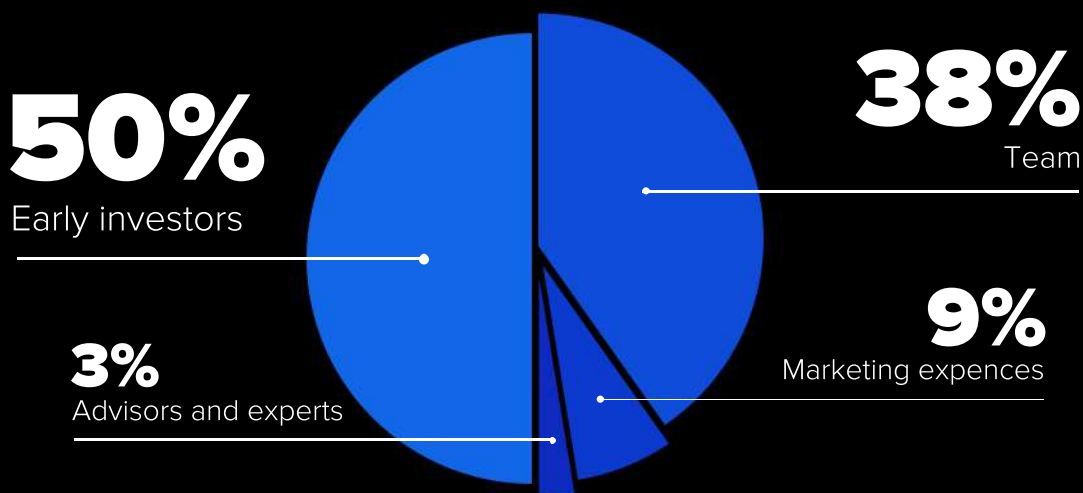
Accommodation rate

1 GTN, \$:

\$ 0,0045

Distribution of GTN token genesis, incl.:

Total: 100%



2. Stable tokens. Tokenomic model.

Stable tokens are digital assets, the emission of which depend on electronic or digital currencies received on **Relictum Pro** wallets, digital assets, or cryptocurrencies. The name of the stable tokens in **Relictum Pro** for the convenience of users will be saved.

For example, USDT is USDT, BTC is BTC, etc.

The sum of the corresponding stable tokens will be equal to the sum of electronic or digital currencies sent to **Relictum Pro** wallets, digital assets, and cryptocurrencies, and this will be the mechanism to issue stable tokens in **Relictum pro**, which will be executed by the corresponding smart contract.

The tokenomic model of stable tokens is as follows:

0%

The fee for putting assets into **Relictum Pro** is 0%;

0%

The fee for transactions within the network is 0%;

The fee for the withdrawal of assets from **Relictum Pro** is 2%. Based on a smart contract this fee is sent to a special **Relictum pro** fund. The amount of all the fees will be the basis for the issuance of the **RLC** stable coins. Thus, the capitalization of **Relictum Pro** will be confirmed by funding stable tokens, which can be checked on the relevant public wallets at any time.

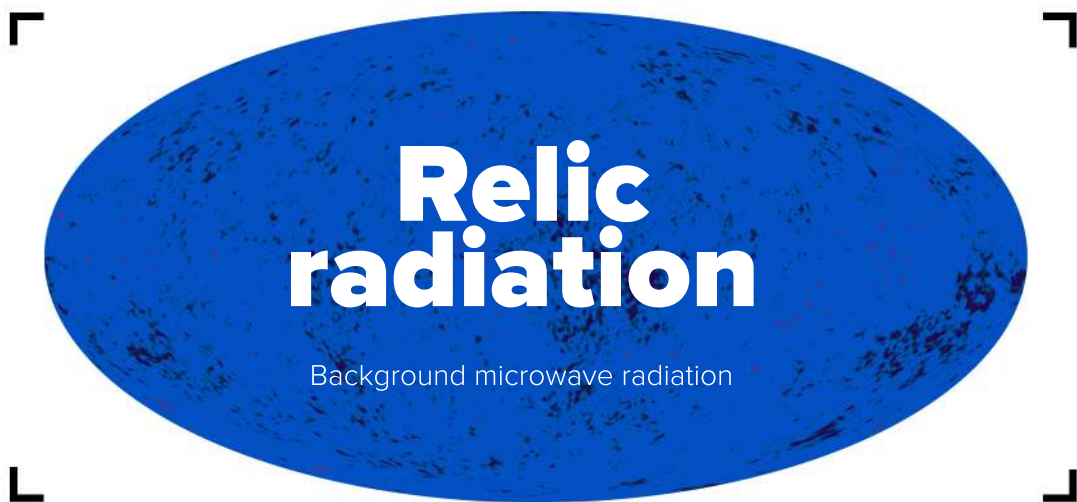
The destruction of stable tokens in **Relictum Pro** occurs in case of withdrawal of the corresponding assets from **Relictum Pro**.

3. RLC Stable Coins. Tokenomic model.

Stable coins RLC is the main coin of the **Relictum Pro** network, the issue of which is built on the forging* of coins.

* Forging is a creation of new entries in the blockchain based on the participation of **Relictum Pro** network nodes in computational processes with the ability to receive remuneration in the form of new units – **RLC** stable-coins. The forging of the stable coins of **RLC** network **Relictum Pro** is built on the principles of relic radiation.

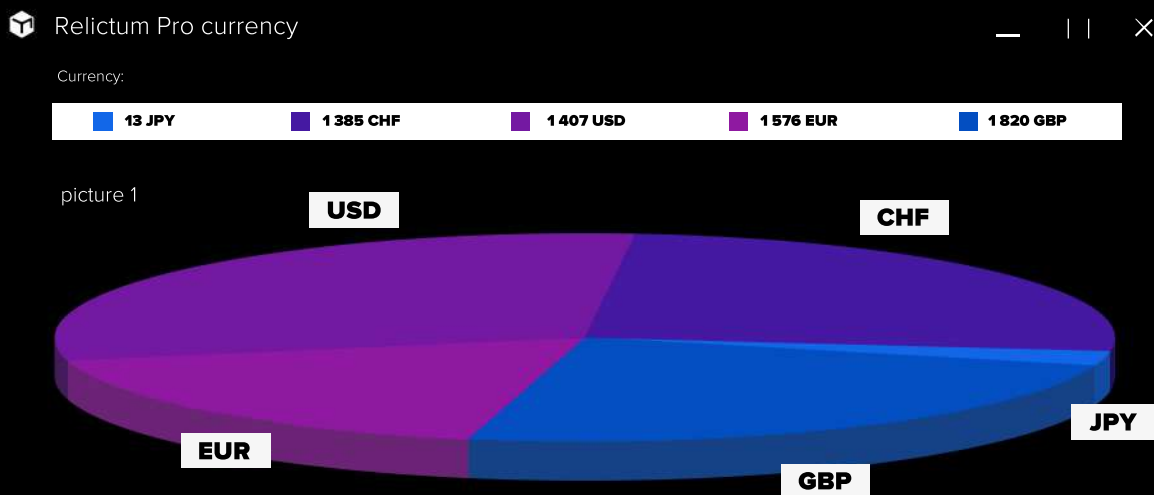
Relic radiation is a background microwave radiation the same in all directions and having a spectrum typical for an absolutely black body at a temperature of ~ 2.7 K. Despite the constancy of the background radiation, it exhibits inhomogeneous fluctuations (vibrations). However all these fluctuations do not affect the final constancy of the background radiation.



If we draw an analogy with the world of electronic, digital currencies, and assets, we can draw the following conclusions:

1. 1. The volume of assets on Earth is a constant value;
2. 1. The cost of electronic, digital currencies and assets varies only with respect to each other.

Thus, the project team believes that it is possible to create a constant coin relative to the basis of all currencies of the world – the **RLC** stable-coin, which would level out the fluctuations in the value of the stable-tokens compared to each other. Such consistency will be expressed in the calculation of the cost of the **RLC** stable coin based on dynamic coefficients in relation to world electronic, digital currencies and assets, which will be reflected on the map of currency fluctuations (fluctuations).

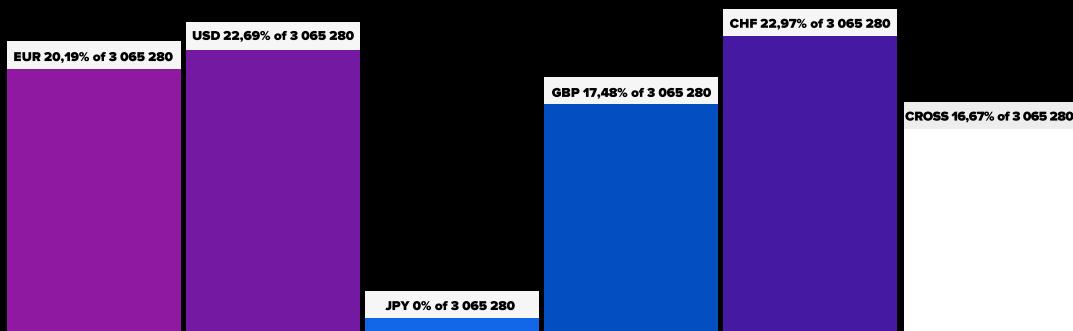


This figure shows a pie chart of the weight ratios of the intangible assets (fiat currencies) relative to the Bitcoin cryptocurrency on a percentage base.

This shows us the proportional dependence of the ratios when describing the economic model of Bitcoin cryptocurrency.

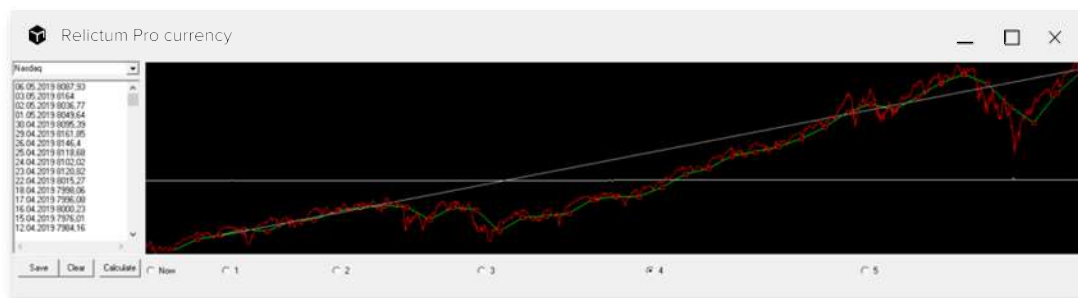
Relictum Pro currency

Currency:
picture 2



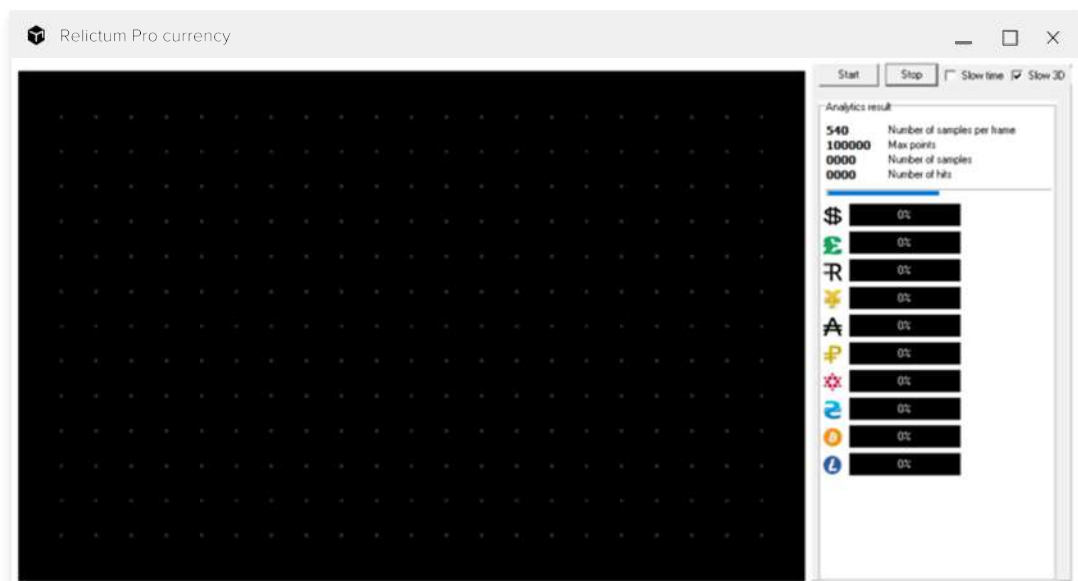
This figure shows the values of the pie chart (see Fig. 1) in expanded form, where the value of each presented weight (separate currency) is highlighted in a separate column.

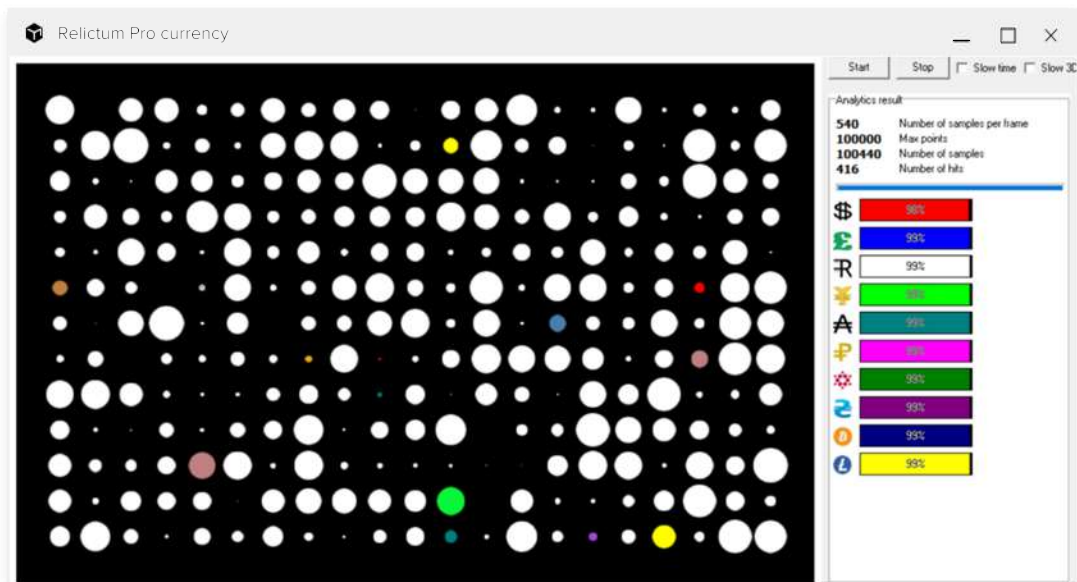
Pay attention to the column named CROSS, denoting the weight value of the new **RLC** cryptocurrency; we have developed – Relict Coin, which has a constant proportional relationship and the value of which is constant at each moment of time. This was achieved by the development of a unique economic model based on the mathematical model of relic radiation.



This figure is a chart of the tangible asset of the Nikkei index, which is used to construct an approximated piecewise linear function, the first derivative of it was taken.

The Relict Coin chart is depicted as a horizontal line, which shows its constancy relative to the movement of the value of the Nikkei index.

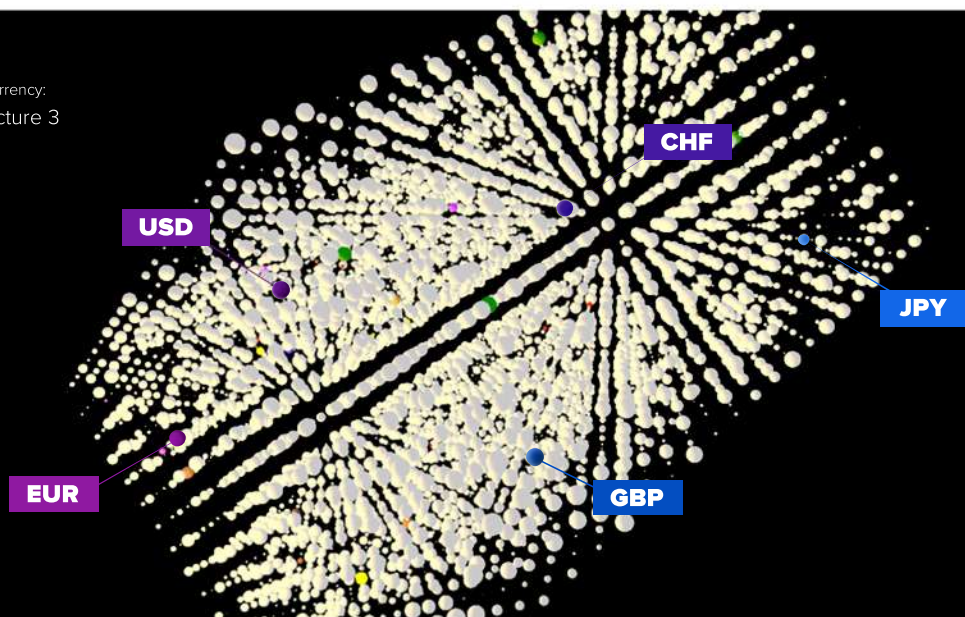




We proceed from the fact that all the tangible and intangible assets known to date, and even those that DO NOT EXIST at the moment, are finite. This gives us the right to assume that the value of the total volume is equal to 1. In the photo, we see the proportion of each of the intangible assets represented.

The mathematical model of the behavior of Relict Coin enables direct correlation in real time, which, in turn, allows Relict Coin to remain economically stable.

Currency:
picture 3



We now turn to the explanation of the final Figure, which presents a mathematical model of the Relict radiation in relation to the economic model of the Relict Coin.

This figure shows a 3D model of currency fluctuations, where the colors indicate the weights of intangible assets found in a unit of volume of all currencies (Yuan, Dollar, Euro, etc.) per unit of time.

Forging model provides two options for the emergence of coins:

1. Commissioning forging

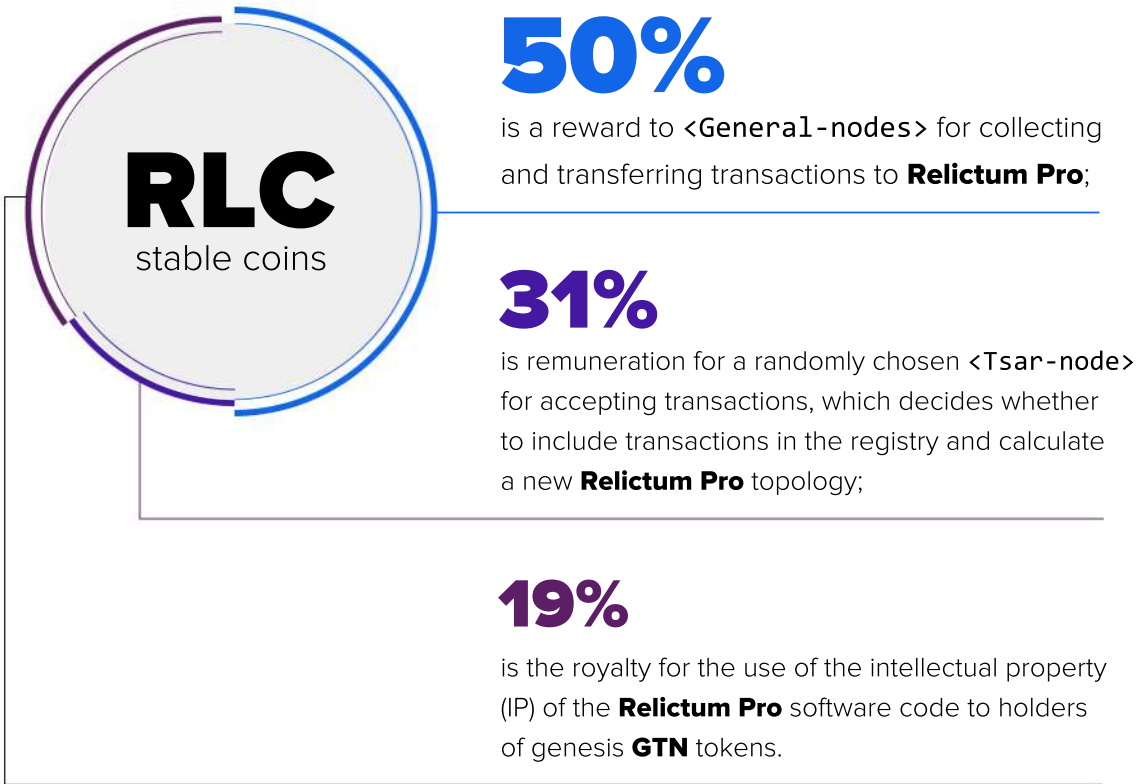
Based on the issue of stable tokens. Since the tokenomic model of stable tokens involves charging a fee for withdrawing assets from the **RLC** coin in the amount of 2%, the emergence of the **RLC** stable coin occurs at the moment of entering the stable token into the **Relictum Pro** network. The amount of commissioned forging of the **RLC** stable coin is calculated by the formula:

$$N (RLC) = 2\% * N (STNi) * Ki \text{ c.c.f.},$$

where:

- 2%** — is a fee forging ratio (**Relictum Pro** fee amount set in the smart contract for withdrawal for the corresponding electronic, digital currency or asset)
- N (RLC)** — is the number of **RLC** Stable Coin issued;
- N (STNi)** — is the number of the corresponding electronic, digital currencies and assets entered (credited) to **Relictum Pro**;
- Ki c.c.f.** — is the coefficient of the corresponding electronic, digital currency, or asset included in the **Currency fluctuation map at the time of the transaction.**

The resulting **RLC stable forcing** fees will be automatically distributed based on the corresponding smart contract in the following order:



RLC Distribution model of the commissioning forging of the RLC stable-coin:

Rewards to General-nodes (further distribution by coefficients)	50%
Tsar-node reward	31%
Royalty for the use of IP Relictum Pro. Holders of the genesis of GTN tokens	19%

2. Direct Forging

Direct Forging is based on the purchase of **RLC** Stable Coins. This is the basis for the release of the **RLC** Stable Coin. For this, we have provided direct forging.

$$\mathbf{N (RLC)} = \mathbf{N (STNi)} * \mathbf{Ki \text{ c.c.f.}},$$

where:

- N (RLC)** — is the number of **RLC** Stable Coin issued;
- N (STNi)** — is the number of the corresponding electronic, digital currencies and assets entered (credited) to the **Relictum Pro** network;
- Ki c.c.f.** — is the coefficient of the corresponding electronic, digital currency, or asset included in the **Currency fluctuation map at the time of the transaction.**

This distribution was adopted by the authors of **Relictum Pro** based on the law of the harmonious ratio of the levels of the network structure.

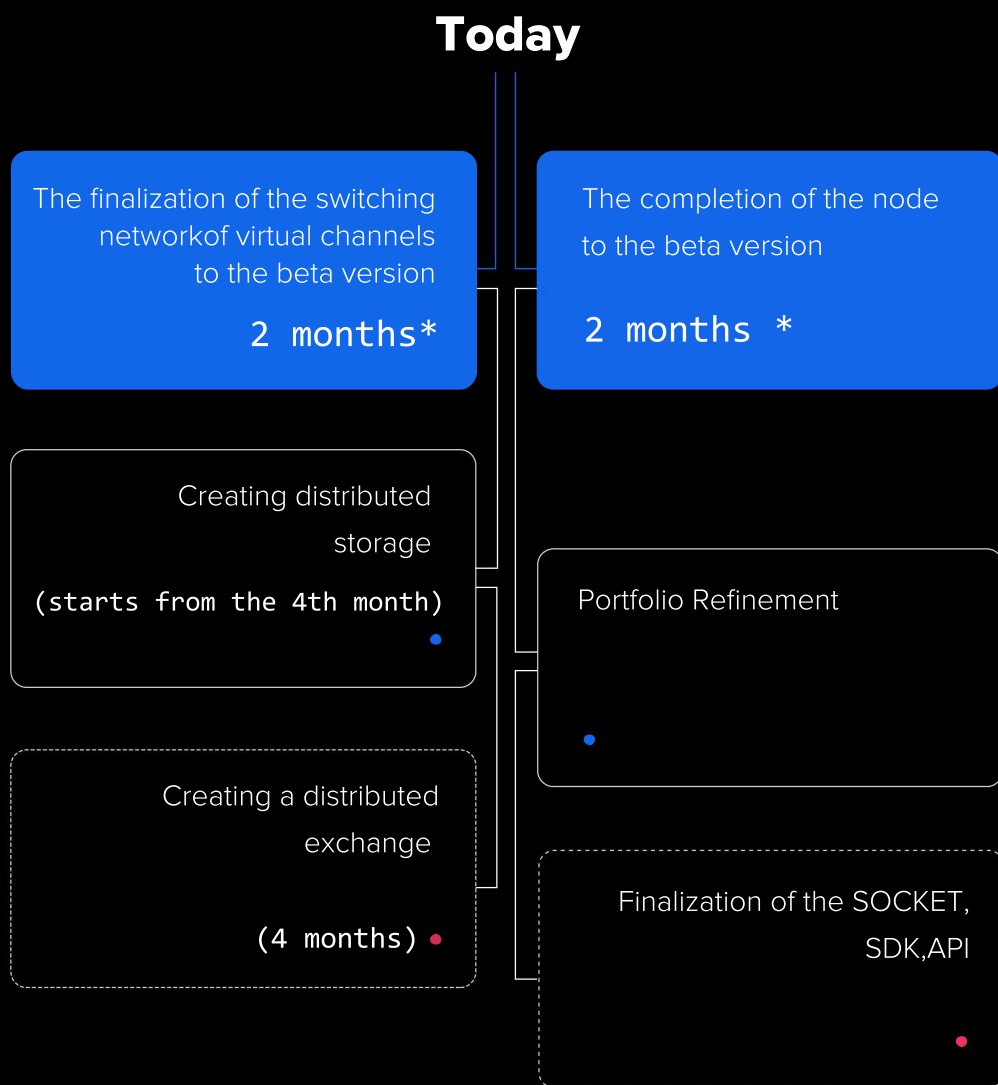
The RLC stable coin of 100% that appear as a result of direct forging will be automatically credited to network users who have acquired the RLC stable coin.

11

Roadmap



11 — Roadmap



* — from start date pre-ICO (1 June 2019)

12

Team



12 — Team

Our team includes highly qualified technical specialists from various fields of science and technology, which guarantees a voluminous and broad view of the product being produced.

Delphi
Technologies

Pascal



Relictum Pro is more than 20 specialists

Software solutions are developed by an experienced staff of programmers working in low-level programming languages with extensive experience in the field of cryptography in Delphi, C, Pascal.

Our team also includes the experienced system programmers, client-server technology specialists, PhD-level mathematics analysts, programmers in cross-platform transformations, banking specialists, etc.

**Alexander
Strigin**

CTO

**Franco
Fiore**

COO

**Nikolai
Osipenko**

CMO

**Ekaterina
Volkova**

Advisor

**Jorge
Sebastio**

Advisor

**Fernando
Martinho**

IT-Security
advisor

**Matthias
Mende**

Crypto influencer

13

Brief Description

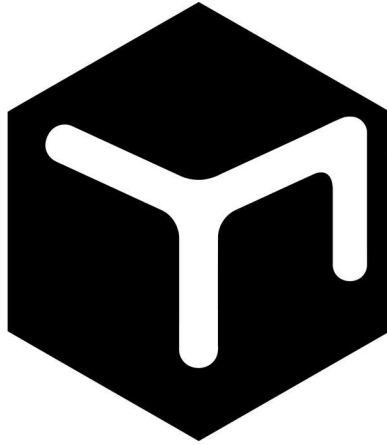


13 — Brief Description

Relictum Pro is a fully distributed and decentralized platform, which includes all areas of human activity, ranging from the sale of goods and services (both legal entities and individuals except intermediaries) to complete logistics of the movement of goods and production.

Relictum Pro is a blockchain platform describing (formalizing) in any event. It can work both in private mode in closed structures, describing the entire document flow, and at the level of the international single global economy. At the same time, a one-way **private <- share.** correlation is possible.

Relictum Pro is a global platform covering all aspects of a person's economic life in a distributed registry.



Thank you

This information is confidential and is not to be disclosed

Not a public offer.