Decentralized and Secure Cloud Hosting and Communications Protocol

Whitepaper

Contents

Introduction

First, Web3haven strives to dramatically change the approach to setting up online data framework, i.e. from node-oriented to information-oriented. As a result Web3haven users will be able to work with information without worrying about technical architecture of the network, which is fully hidden from them and is no longer available to anyone, including application engineers. Only two categories of maintenance staff remain in the system: Hardware engineers supporting server hardware and end user devices, and security administrators responsible for drafting script policies for Web3haven information domains. These two categories will no longer have access to user data. The conventional jobs of systems administrators and database administrators will thus become obsolete. That said, Web3haven operates over existing IP networks and supports full compatibility with any existing software.

Second, Web3haven enables network users to fully regain their legitimate right to privacy. Inside Web3haven ecosystem users do not leave any 'digital and financial footprint,' at the same time users are able to fully manage their digital footprint and shape it as they see fit on public internet services if they use such services with Web3haven Open Net Tool.

Third, Web3haven aims to return to online users their legitimate right to information. It enables users to protect their data from breach, theft and forging. Web3haven protects the right of online users to liberty of speech and the written speech itself – from blocking, seizure or confiscation. And Web3haven provides for placing that written speech on a quality and fast distributed cloud featuring the most advanced internet technologies.

Last but not least, Web3haven is a full-fledged product that provides immediate access to the market of cloud-based technologies to anyone with a few dollars to buy their server and qualified enough to connect their server to the internet. And we plan to make money along the way.

1. Problem

1.a. Essence of Problem

Fundamental problem of the internet is its open infrastructure which is designed based on 'geography.' It allows for easy access to information about nodes and users, and its security is assured by a multitude of add-ons [1-8]. As a result:

1. The internet is full of intrusive vendors, scammers and hackers who abuse openness or leaks of personal data and user activity data to steal, blackmail, extort, harass or deliver junk mail and unsolicited advertising [1, 7, 8];
2. Most services and features on the internet have limited numbers of entry points and therefore they can be easily locked down (for instance, by distributed denial-of-service attacks) or substituted by a fraudulent copy [7, 8];
3. Technical staff of telecoms operators and service providers are able to read, tamper with and block user data [7, 8];
4. Renting out surplus computing power normally requires a lavish marketing spend.

1.b. Confirmation of Problem

Market size is the best proof of availability of the problem, or the number of online users who solve this problem one way or another. Our core audience (“CA”) is people who use cloud services with systems of private access and content control. In accordance with the probability theory the size of CA equals [7- 9]:

$$\frac{50\% \cdot 27\% \cdot 47\%}{100\%} = 6.3\%$$

of the total number of the internet users or 258,300,000 people worldwide. In money terms our 2020 Serviceable Available Market (SAM) stood at $141.7B with the annual increase of $8.7B. By 2030, our SAM is projected to reach $228.6B [9 - 11].

2. Solution

Web3haven is a super secure distributed information ecosystem that provides online users with private space and the ability to transact without leaving their ‘digital footprints’ on the internet. It also provides affordable, high speed cloud services for secure distributed computing and cloud storage services at optimum prices. Resource providers and content providers are able to securely and automatically trade computing resources and information. And our ecosystem makes private payments fast and secure.

It comprises decentralized web hosting with the serverless security and content control system on its private, secure distributed cloud for data computing and storage. The ecosystem’s economics is underpinned by smart contracts within our decentralized payment system.

Web3haven is a secure and distributed information ecosystem that:

- Protects network users from all kinds of data breach and data capture
- Suppresses unsolicited information
- Protects user information from unauthorized access, modification, destruction, copying and lockdown
- Provides for shared and secure data processing
- Enables users to securely and automatically trade in computing resources
- Allows for secure data trading
- Enables online users to make secure private payments

Security is guaranteed by our control blockchain and our embedded payment system based on the financial distributed ledger and the algorithm of cash flow interruption.

We improve data security by way of offering distributed data storage based on the ‘everywhere and nowhere’ principle, double encryption, and our built-in system for blocking data capture.

Attacks on computer nodes are now meaningless due to our logical segregation of data processing environment and physical topology. Physical nodes no longer have individual meaning; they are identical from the standpoint of the system. It is impossible to identify a point to be attacked.

Online users manage access to their own information via the control/master blockchain. Cloud owners have no access to data, and they do not know and have no way of knowing what is stored in the cloud. And they do not store a single document in its entirety. What the cloud owners receive is unfinished sets of raw data pieces to be stored. Every node in the cloud contains something like mixed pieces of a number of different jigsaws, and no one knows how to restore such data, except for Web3haven secure algorithm.

Cloud services will no longer need marketing budgets. As soon as Web3haven software is installed on their servers, cloud service providers will be able to automatically sell their resources. They receive payments via our embedded payment system directly linked to the control/master blockchain.

This link also enables data owners to protect their rights when they sell access to their data. Intellectual property transfers and payments are governed by the ecosystem's control and financial blockchain. It is technically impossible to copy and transfer intellectual property without consent of its owner.

2.a. Product

Web3haven is an uncensored, anonymous, and secure distributed data-driven operating system (operating system of the network[1]) designed for immediate processing of information. End nodes within the system function as access terminals and cells of an integral organism of Web3haven network that has no individual significance but is rather a small portion of the information and virtual environment called Web3haven network.

Product Features:

1. Protection of online users from hackers, scammers, and intrusive vendors by way of concealment of information about online activities of a user, their geographic location, hardware and software of their node (a personal computer or mobile device).
2. Protection of user data from all types of data security threats except attacks based on social engineering.
3. Shared use of information in the modes of isolated group in a 'private information domain,' intergroup collaboration within 'overlapping domains' and 'super domains,' open access via publications in 'public domains,' commercial-grade access in public domains with the function of 'contract-based access.' The 'domain' is construed as combined and structured information with security and access tags.
4. Secure trade in computing resources in automatic mode as part of Web3haven distributed computing ecosystem. It provides for total security and anonymity of user data storage and processing, thanks to the special Web3haven protection algorithm based on complex cryptography, master blockchain, and data storage governed by the 'everywhere and nowhere' principle. Not a single node contains entire data or its recovered fragments, which guarantees protection of the data owner and ensures that the owner of data storage facility is immune from legal implications of publishing this data on its hardware resources. Hardware resource vendors no longer need to worry about marketing and advertisement!
5. Secure information trading via smart contracts is enabled by the built-in payment processing system. Web3haven supports a dedicated mode of total copy protection for information vendors. In this mode a user is able to view content but the user is technically prevented from reproducing the content except if they take photos or videos of the screen with their camera on a separate device. 'Watermarks' are

[1]Operating system of the network is an operating system installed and operated throughout the network, regardless of the status of its separate nodes. Nodes (computers) in the system operate as access consoles and hardware framework for the distributed storage and the serverless distributed computing engine. This is what essentially differentiates it from a network operating system (It is an operating system of a separate node enabling the node to operate within the network).

embedded in the content structure to protect from such filming. The watermarks allow to unambiguously identify the buyer of content that makes and distributes copies of the content.

6. Secure private payments via our embedded payment processing system featuring interruption of funds crediting/debiting chain when interacting with third party financial sources (cryptocurrency/fiat payment systems) with the option of voluntary disclosure of information about financial transactions to fiscal authorities and government supervisory agencies without the possibility of disclosing any information about the relevant counterparties.

Web3haven network enables online users to transfer their surplus computing resources to other users on a fee basis, as well as publish and transfer information on a fee basis to other users in formats of their choice, while assuring unsurpassed level of data protection and privacy/anonymity.

Web3haven Functionality:

1. Core Functionality for Users: Serverless secure data transmission and data storage (including cloud storage, web hosting, chats, voice and video calls), serverless secure cloud computing, and automated serverless search engine for Web3haven resources.
2. Information Management System: This system provides for the management of publication, deletion, and access to data based on 'information domains[2]. This is a distributed metadata database underpinned by blockchain technology.
3. Built-in Payment Processing System: Designed for secure payments between the network users. The basic unit of value is the internal stablecoin dubbed IS. It is pegged to major cryptocurrencies including BTC, ETH, USDT and USDC.

Interconnection with public internet: To access the public internet we offer users a dedicated component consisting of our browser and our operating system bundled in a dedicated virtual cocoon that enables a user not only to securely enter public networks but also to independently shape and check profiles of their digital footprints on services offered in public networks.

Secure payments outside of Web3haven built-in payment system: To ensure that online users are able to enjoy services of third-party payment systems without compromising privacy and security Web3haven is equipped with additional standalone payment controller which allows for secure financial transactions, both within Web3haven ecosystem and using the component for accessing public networks.

2.b. Web3haven Tokens & Blockchain

Web3haven deploys 2 mutually integrated distributed ledger networks which support 2 types of tokens:

- Web3haven process blockchain supports the internal stablecoin dubbed IS
- Web3haven emission blockchain supports the governance token dubbed GT

Web3haven deploys 2 mutually integrated distributed ledger networks:

1. **Web3haven emission blockchain** is designed primarily for IS emission/de-emission, IS offchain transfers, and to provide interface between the embedded payment system and external payment systems;

2 Information domain is a specialized structure of Web3haven designed for decentralized information control.

2. **Web3haven process blockchain** is designed for storing metadata and managing:
   a) Embedded IS-based payment system (the so-called financial blockchain) including:
      - Subsystem for private payments (the built-in token mixer);
      - Subsystem for interoperation and integration with the emission blockchain;
      - Subsystem for supervision of smart contracts and managing 'kiosks';
      - Subsystem for ad placements and display;
      - Subsystem for the management of serverless hosting metadata;
   b) Subsystem for the management of serverless computing cluster metadata to include:
      - Module for managing user data for distributed computing;
      - Module for managing serverless private voice- and video communications;
      - Module for managing serverless real-time private text messaging system;
   c) Subsystem for serverless access and content management;
   d) Subsystem for serverless search engine;
   e) Subsystem for randomized management of the process blockchain consensus.

Components of Web3haven process blockchain interact with each other based on smart contracts. Every task issued by an online user and accepted by a contractor is free-of-charge under the respective IS-denominated (or GT-denominated) smart contract.
Web3haven

Both tokens (IS and GT) can be used as payment for goods and services within Web3haven network. The services of hosting, storage and access to information, distributed computing, and secure access to content can be paid within Web3haven network exclusively with IS or GT. In order to pay for other goods and services (such as insecure access to content or sale of non-digital goods via any trading platform within Web3haven network) online users are able to use both IS/GT and third-party payment systems, however, privacy of payments and privacy of trading stakeholders is not guaranteed with such third-party payment systems.

2.c. Consensus Algorithms

Consensus algorithm of Web3haven process blockchain:

Web3haven supports Green Proof-of-Work (GPoW) consensus algorithm. GPoW hash code is computed by way of 'useful work' directly related with transactions performed in the network.

Each transaction within Web3haven network is a smart contract with several counterparties: Storage/compute server owners, content owners, and content consumers. And each of them generates their own unique transaction identifier. The smart contracts are also intended for non-reciprocal transactions. These identifiers are conveyed to all process actors and serve a hash code that is normally computed as a result of mining in other PoW networks. The codes thus generated are subsequently used for signing of a block in Web3haven blockchain, provided they satisfy conditions of the algorithm (we call them useful codes).

This approach allows to eliminate conventional mining and, correspondingly, the energy consumed by such mining.

Importantly, GPoW effectively precludes any possibility of the infamous 51% attack. This is because useful code computation is only performed when useful work is performed, and hash rate of the network is

defined by the number of transactions, not capacity of equipment. Most importantly, each hash code computed by the network user corresponds to at least one hash code computed by another user of the network. The probability that the hash code turns out to be useful is exactly the same for everyone, i.e. the hash rate is always identically distributed across multitudes of users within the network.

Consensus algorithm of Web3haven emission blockchain: DPoS [13] algorithm.

2.d. Benefits

Benefits for Users:

- Privacy and anonymity of working online;
- Total absence of 'digital footprint' when utilizing Web3haven services;
- Suppression, masking, and controlling 'digital footprint' when working on public internet:
- Secure and anonymous payments within Web3haven payment system;
- Secure payments when utilizing other payment systems;
- Secure and anonymous cloud data storage with high quality service and support of most access methods;
- Secure and anonymous access to data and resources of the network applying the most advanced technologies (Java Script, media, etc. are no longer a threat to privacy);
- Protected system for shared work with data and services without the need to create and maintain own technical infrastructure;
- Significant reduction of the total cost of ownership of IT architecture for corporate users [12];
- 'Make Me Happy' button philosophy (super user friendly).

Benefits for Service Providers and Content Providers:

- All of the benefits for Users;
- Protection of data from any censorship, breach, lockdown or seizure;
- Anonymous content publication;
- Total control over access to content and services, control over transfer of access permission;
- Secure and private system for building workflow processes using Web3haven embedded payment system and embedded secure, anonymous and distributed database management system;
- Secure withdrawal of funds from the system.

Benefits for Cloud Service Providers:

- No marketing cost and user acquisition expenses thanks to automatic acquisition of users from within Web3haven network;
- Automatic payment for using resources of Cloud Service Provider at fair prices as determined by Web3haven home market;
- No liability for any content published on their computing resources;
- Barrier to entry is reduced to several thousand US dollars or at least by the factor of 3.

3. Tokenomics

3.a. Web3haven Internal Stablecoin (IS)

3.a.1. IS

IS are the internal stablecoins of Web3haven built-in payment system. IS are pegged to major cryptocurrencies including BTC, ETH, USDT and USDC. Web3haven emission blockchain is the source of IS. This blockchain is integral part of the built-in payment system. IS turnover takes place in Web3haven financial blockchain which is integral part of the built-in payment system. IS primarily allow for secure and private payments for goods and services in Web3haven network.

3.a.2. Baseline Rules of IS Circulation

A. The maximum number of IS simultaneously in circulation in the financial blockchain equals Z = 1,000,000,000,000 IS (emission cap). In our view this number of IS should be sufficient to sustain Web3haven economics.

B. When funds are deposited in Web3haven user wallet IS are generated and when funds are withdrawn from the wallet IS are burned. As long as the number of IS circulated in the financial blockchain is less than Z = 1,000,000,000,000 Web3haven maintains in its special account the amount of the corresponding cryptocurrencies that precisely equals the number of IS circulated, and Web3haven redeems and sells IS at the exchange rate of 1:1. Web3haven reserves the right to charge a fee for exchanging and transferring funds via third party payment systems.

C. In case all Z = 1,000,000,000,000 IS are circulated Web3haven stops selling IS and only repurchases IS.

D. If the number of IS in circulation exceeds 995,000,000,000 IS (F = Z – 0.05*Z) three times in the course of three (3) months Web3haven reserves the right to suspend IS sales and redemption (transition to the deflationary model) or issue additional IS in the first iteration (i=1). In case Web3haven resolves to transition to the deflationary model the IS exchange rate vs. any cryptocurrencies will be fixed by the market. IS will no longer be pegged to the corresponding cryptocurrencies. Web3haven will cease to exist and will be managed thereafter by a nonprofit organization to be established for this sole purpose (See Web3haven Closeout). In case Web3haven decides to issue additional IS it will update the emission network client with an increased limit of IS emission. The emission limit will be increased by K = 1,000,000,000,000 IS to equal 2,000,000,000,000 IS. In the event the new quantity of IS in circulation again exceeds the limit of F=Z – 0,05*Z in the course of three (3) months Web3haven will once again choose between transitioning to the deflationary model or issuing additional IS (i = 2). In this case and in any further iterations the emission limit Z and the new limit F will be calculated using the following formulas:

$$\begin{aligned} Z_{i+1} &= Z_i + K \\ F_i &= Z_i - 0,05 \cdot Z_i \end{aligned} \tag{1}$$

E. Each IS may be fractionalized and the minimum size equals 1E-9 IS. If in the future this degree of division turns out to be insufficient Web3haven will propose to update IS with a higher degree of IS fractionalization. However, online users who do not believe such higher degree of fractionalization is necessary will be able to continue to apply the system's initial parameters.

F. IS Emission

A user transfers to the Web3haven special fund the amount in the corresponding cryptocurrency, for which the user wants to purchase IS using any method of their choice as long as it is supported by Web3haven. In return, the user receives a digital key, to which the corresponding digital sight bill is attached in Web3haven emission blockchain. Once the sight bill is formed Web3haven will have no information whatsoever about the sight bill, while processing of the sight bill is automated. The online user can independently activate the sight bill using any of their Web3haven identifiers (users can have unlimited number of identifiers) or they transfer their sight bill for activation by any third party. Web3haven receives no data about persons activating the sight bill. Once the sight bill is activated an entry is generated within Web3haven emission blockchain to generate the corresponding number of IS and as soon as the consensus algorithm of Web3haven emission blockchain validates that IS generation entry (a block including the generation entry) Web3haven financial blockchain creates a virtual address with the same number of IS in the balance and a transaction is created to transfer the IS to the address where the sight bill was activated.

If desired a user can enhance privacy of their transaction using the built-in transaction mixer: An amount of IS arrives at the built-in mixer on Web3haven financial blockchain where the transaction is split into parts and then mixed with other transactions, and the user wallet receives amounts from randomly chosen wallets of other users and/or virtual users until the amount of IS initially allocated to the sight bill is received in full. A fee is charged for using the transaction mixer.

Validator(s) of the consensus algorithm of Web3haven emission blockchain charges a fee. Web3haven receives and stores information about the user purchasing IS; this information is provided by the third-party payment service that effects the payment.

Third party payment systems and banks may charge their corresponding transaction fees.

G. De-emission of IS

De-emission occurs in case Web3haven repurchases IS. A user generates IS-denominated sight bill in their wallet. After that IS are debited from the user's account and the sight bill account is credited after the IS pass a chain of random and uncoordinated transfers between randomly generated wallets within Web3haven ecosystem. These wallets are automatically created and they are not owned by real users, however, formally they are no different than conventional user wallets. Each sight bill for IS debiting is generated using funds owned by several users. The user receives the sight bill's digital key and Web3haven receives information about the sight bill generated on Web3haven emission blockchain. The relevant repurchase funds are reserved under the sight bill in the corresponding cryptocurrency. The user then either contacts Web3haven to clear the sight bill or the user gives their digital key to any third party. Once the sight bill is cleared Web3haven transfers the funds using the details provided by the sight bill bearer and simultaneously generates an entry to burn the corresponding number of IS in Web3haven emission blockchain as soon as the consensus algorithm of Web3haven emission blockchain validates the burning entry (a block including the burning entry) and the IS balance in circulation is reduced by nominal value of the sight bill.

If desired a user can enhance privacy of their transaction using the built-in transaction mixer: An amount of IS arrives at the built-in mixer on Web3haven financial blockchain where the transaction is split into parts and then mixed with other transactions. A fee is charged for using the transaction mixer.

A validator of the consensus algorithm of Web3haven emission blockchain charges a fee. Additionally third-party payment services charge their transaction fees. Web3haven receives and stores information about the sight bill bearer as required by the third-party payment service selected by that bearer.

H. Offchain IS Transfers Between Users

A user generates IS-denominated sight bill in their wallet. IS are debited from the user's account and the sight bill account is credited after the IS pass a chain of random and uncoordinated transfers between randomly generated wallets within Web3haven ecosystem. These wallets are automatically created and they are not owned by real users, however, formally they are no different than conventional user wallets. Each sight bill for IS debiting is generated using funds owned by several users. The user receives the sight bill's digital key and Web3haven receives information about the sight bill generated on Web3haven emission blockchain. The relevant repurchase funds of the sight bill are locked in the corresponding cryptocurrency. After that the user sends their digital key to a third party, 'acceptor.' The acceptor launches the activation algorithm (clearance of the sight bill) similar to the activation of an emission sight bill when IS are purchased from Web3haven (Item 1.2.F.). The acceptor's account is then credited. Web3haven receives information about cancellation of the sight bill on Web3haven emission blockchain and the assets in the repurchase fund are released.

This type of transfer provides for payment of fees to validators of the consensus algorithm of Web3haven emission blockchain. Web3haven receives no data about the sight bill grantor, as well as the acceptor of that sight bill.

I. On-chain IS Transfers Between Users

Any transaction in Web3haven network is a smart contract involving two or more parties. An embedded predefined Web3haven contract is a contract for the storage and access to online content (its parameters in terms of service timeline and quality), for access and parameters of access to online content, for distributed execution of algorithms (such as private voice and video communication, private messaging service). Embedded predefined contracts are automatically entered into and executed and their terms and counterparties are automatically assigned depending on current status of the network, while users independently generate their offers.

Users are free to enter into other contracts at their discretion. By decision of online users, contracts may be fee-based or gratuitous. They may or may not provide for controllable actions when IS are transferred within the network. In case of a direct IS transfer between users a contract is concluded. The contract contains information about the user – the grantor and the user(s) – the acceptors. This contract is registered on Web3haven financial blockchain. A transfer from the grantor to the acceptor(s) is generated as and when the latter fulfills terms of the contract. No fees are charged for on-chain IS transfers. Web3haven collects no data about counterparties to smart contracts and no such data is stored by anyone except for the actual counterparties.

A user can enhance privacy of their transaction using the built-in transaction mixer: An amount of IS arrives at the built-in mixer on Web3haven financial blockchain where the transaction is split into parts and then mixed with other transactions. A fee is charged for using the transaction mixer.

3.b. Web3haven Governance Token (GT)

3.b.1. GT

GT are utility tokens of Web3haven built-in payment system. GT price is market-determined. GT are circulated on Web3haven emission blockchain. Web3haven applied its proprietary technology to design GT. The total supply is 10,000,000,000 GT. Initially the keys – GT owners – belong to Web3haven, which is

entitled to transfer, exchange or sell GT to any person or entity on any terms at the discretion of Web3haven.

Web3haven governance tokens (GT) are designed for:

- Secure and non-private payments within Web3haven except for embedded predefined Web3haven contracts (they are paid in IS only);
- Generating a pool of validators of the consensus algorithm of Web3haven emission blockchain based on conventional proof-of-stake (PoS) consensus algorithm for the subnetwork of IS generation, burning, and offchain transfers;
- Shaping a pool of exercisers of smart contracts with an external guarantor (to set up IS escrow accounts and/or engage an external escrow account) in Web3haven network as part of the consensus algorithm of Web3haven emission blockchain;
- Voting by GT holders.

3.b.2. Baseline Rules of GT Circulation

A. Each GT token can be split into parts with the minimum size equaling 1E-9 GT. In case this degree of division proves to be insufficient Web3haven will propose updating with a higher degree of GT division. Users that do not believe such increase is necessary will be able to continue operating using the old system parameters.

B. GT Purchase and Circulation

Web3haven initially offers GT for sale as part of its private and public offerings in the amounts and at the prices as fixed by Web3haven. Subsequently GT will be offered for sale on secondary markets. Web3haven reserves the right, at its discretion, to repurchase and sell GT. Users are free to exchange GT provided their transactions are denominated in GT on the one part and IS on the other part. Other units of GT exchange like BTC, ETH, USDT, USDC, etc. may be used via a special escrow pool. Initially Web3haven creates such escrow pools in the event there is increased demand for exchange in any particular unit of exchange. In any case all GT transactions are fee-based. The more complex the transaction the higher the transaction fee.

C. GT as a Payment Instrument

GT serve as a method of payment for goods and services offered in Web3haven network pari passu with IS, except for embedded predefined Web3haven contracts. Validators of the consensus protocol of GT emission blockchain charge a fee for any GT payments.

D. GT Staking

Special nodes – validators – validate blocks within Web3haven emission blockchain. Validators resolve to include a block in the chain in accordance with DPoS [13] algorithm. These decisions are made exclusively in relation to the transactions described in Item 3.a.2.(F-H) of this document.

For validation on Web3haven emission blockchain a user must acquire a stake of at least 5,000,000 GT but not more than 500,000,000 GT. The user can pay directly or engage other users in the stake. To do that the user must place a public offer in Web3haven network to use GT for staking. Users that own GT accept the offer and thus send their GT for the validator's custody. A validator is not technically able to dispose of GT received. GT arrive at the relevant registered staking smart contract. Validation may be suspended or terminated by decision of the validator or forcefully terminated in case the validator's node is not available for 168 hours. If validation is terminated such validation GT tokens are automatically returned to their

respective owners.

Since transactions by validators are denominated in IS validators are remunerated in IS. Any IS wallet is firmly tied to the relevant GT wallet. Staking fees are remitted to such IS wallets.

The size of remuneration for the transactions described in Item 3.a.2.(F-H) of this document is a percentage of the transaction amount. The size of remuneration for the transactions as per Item 3.a.2.(F-H) is fixed by voting of the validators and determined by a simple majority vote. In case no remuneration value is determined by a majority vote the size of remuneration is fixed as a product of the total number of GT in staking and the arithmetic mean of the remuneration values put to vote and multiplied by the weight number which is fixed as a ratio of the stake of the value voted to the total stake within the network. GT tokens not placed for staking are not counted during voting. The number of votes by a particular validator is determined by the number of GT in their stake.

Any validator can initiate voting and the voting request is queued up. Voting takes place not more than once every 168 hours in case there are requests for voting. All voting requests submitted before voting are deemed to be processed once the voting is completed.

Any user can send their GT for staking by any available validator. Any user has the right to recall their GT at any time, however, the GT are returned to that user once the relevant period of 168 hours elapses.

When placing an offer to receive GT for staking a validator determines the rules for distribution of profit between the validator and the owners of GT in their stake. However, GT owners receive at least 90% of the fees collected for staking. Upon completion of the next 168-hour period all the fees collected are distributed between the validator and GT owners. The share of GT owner is determined as a proportion to the size of their contribution to the stake.

Tasking is allocated between validators in accordance with the rules of Web3haven network in a manner that each GT in staking yields approximately equal remuneration.

4. Roles & Robots in Web3haven Network

4.a. User Roles in Web3haven Network

User (Wallet Owner): The default role in the ecosystem. All the network participants play this role. Each user within the system has their unique identifier and two keys, private and public. User ID simultaneously functions as a wallet with attached addresses for crediting/debiting any tokens registered in Web3haven network. By default these are GT and IS.

Web3haven network users can play 8 different roles (Fig.1). Any user can play them jointly in any combination of their choice:

Issuer: Responsible for creating smart contracts for IS generation, IS repurchase, and execution of smart contracts for IS burning. Issuer establishes and maintains a special fund in order to receive payment for IS and repurchase IS. Issuer maintains the number of the corresponding cryptocurrency in the fund that equals the number of IS in circulation. Web3haven issues IS. Web3haven network may in future propose any third parties to act as issuers of other stablecoins. Such third parties are fully responsible for compliance of their respective funds and discharging their obligations to the respective network users.

Validator: Builds and owns a validation server that validates transactions denominated in GT and transactions denominated in IS as described in Item 3.a.2.(F-H) of this document, provided a stake in the amount of 5,000,000 GT to 500,000,000 GT is tethered to their validation server. Validator receives up to 10% of all fees for any transactions validated by their validation server. The validator must ensure availability and productivity of their validation server to the extent that the number of validation rounds missed by their server (their queue for validation of a transaction block) does not exceed 10% of all the validation rounds during which the validator was obliged to validate the block within 168 hours. Otherwise their validation server is automatically excluded from the network.

Staker: Owns and sends GT to a stake of any validation server. Staker receives remuneration for GT deposited in validation server, in the form of a portion of the fees collected by validation server for transactions validated, in proportion to the number of GT they deposited in the stake.

Cloud Service Provider (Server Owner): Offers their computing power in Web3haven network for use by Content/Service Providers pursuant to the rules of Web3haven network. Cloud Service Provider is remunerated for such services in any tokens supported by Web3haven network. By default such remuneration is denominated in IS.

Content/Service Provider: Publishes its content in Web3haven network (any data, such as video files or websites) or services (a predefined cluster of algorithms and graphic interfaces). Content/Service Provider pays a fee to Cloud Service Providers (Server Owners) for the publication of its content or service. Content/Service Provider may charge fees from Web3haven network users for access to the content/service published by Content/Service Provider. Content/Service Provider owns its content/service and defines the mode of access to the content/service published by Content/Service Provider.

There are three basic access modes: 1) Personal access mode: Content/Service Provider is the only party that knows about the existence of the content/service and Content/Service Provider owns the content/service and has exclusive access to the same. 2) Group access mode: A group of users authorized by Content/Service Provider that owns the content/service is the only party that knows about the existence of the content/service and has access to the content/service. 3) Public access mode: All members of Web3haven network have access to the content/service.

Reader: Gains read-only access to content and services published in Web3haven network under the terms of absolute confidentiality including access to built-in services of Web3haven network. This role applies only to content and services, access to which has been granted to Reader.

Editor: Gains editor-level access to content and services published in Web3haven network under the terms of absolute confidentiality including access to built-in services of Web3haven network. This role applies only to content and services, access to which has been granted to Editor.

Administrator: Gains access to content and services published in Web3haven network under the terms of absolute confidentiality, including access to built-in services of Web3haven network, with the right to control access, except for access control at the Content/Service Provider level. This role applies only to content and services, access to which has been granted to Administrator.

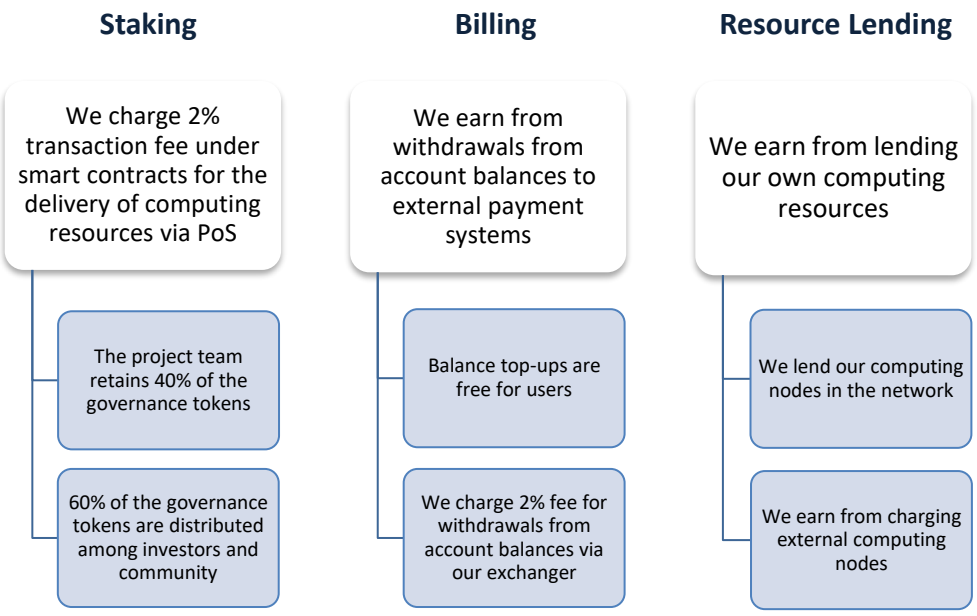

Fig. 1. Web3haven Business Model

4.b. Robots in Web3haven Network

4.b.1 System-level robots interacting with users

In addition to user roles in Web3haven network there are system-level robots designed for interaction with users. These robots include:

RoboMixer: Serverless payment mixer designed for anonymization of payments denominated in tokens (IS by default) supported by Web3haven network (except for GT). The user initiating payment determines the need for such anonymization. Payment mixing is executed on Web3haven emission blockchain. A 10% fee is charged for transactions performed via RoboMixer. Payment originator pays the transaction fee.

RoboPublisher: Designed for publication of user content/services within Web3haven network and to determine the parameters and term of content/service storage, parameters of access to content or discharge of service. Whenever content/service is published RoboPublisher registers the following smart contracts:

1. Smart contracts for publication and access are between Content/Service Provider and the relevant group of Cloud Service Providers delivering their computing resources.
2. Smart contracts for access are between Content/Service Providers and members of the network that are granted access to content/service.

RoboPublisher rigorously executes smart contracts for publication and access. It also supports a subsystem for protection from authorized copying of original content.

RoboSearcher: Serverless search engine that automatically indexes content published and provides a link to reading the same upon search request of the relevant user. RoboSearcher supports three types of indexes:

1. Private index: Indexes and searches for content published by a user exclusively for themselves. It is stored in encrypted form and is available for the user only.
2. Group index: Indexes and searches for content accessible to a specific group of users. It is stored in encrypted form and is available to group members only.

3. Public index: Indexes and searches for content published for all members of Web3haven network. It is available to everyone and stored without encryption.

All these indices contain keywords for data requests from the metadata network. They do not contain links to specific storage nodes.

RoboCommunicator: Designed for setting up private video- and voice communication and conference calls, launching chats and other communication services in Web3haven network. The key feature of such communications is their serverless architecture based on distributed computing where computing thread agents are determined by Web3haven algorithms and they neither receive nor store any results of such communications. Multi-sided communications are performed by third party agents that are paid for their services in accordance with the network rates. Point-to-point connections, for example personal calls, are free of charge; they are supported by computing resources of the network members. The fee for storing communication data is paid by the subjects of such communication in Web3haven network as per the network rates. RoboCommunicator assures total privacy of connections.

4.b.2 Other Robots

Other system-level robots are invisible to users and they do not immediately impact user experience, however, they are indispensable in terms of ensuring high reliability, security and capacity of Web3haven network. They include but not limited to the subsystem for automated data backup, the subsystem for network structure optimization, the encryption subsystem, and much more.

5. Making Money with Web3haven Network

Web3haven network offers three process-related ways to automatically make money (Table 1) per the rates of Web3haven network. Income depends on the number of Web3haven network users and their activity. Therefore top priority for Web3haven is to acquire as many network users as possible. To do that Web3haven creates the most favorable conditions for shaping a full-fledged data ecosystem by engaging Content/Service Providers and offering its subsystem of protection of original content from unauthorized copying, the subsystem for building secure distributed corporate network for data processing and data transfer, the subsystem for private voice- and video communication, the subsystem for private payments, etc.

Table 1. Making Money with Web3haven Network

Method	How Do I Start?	What Do I Earn?	How Do I Earn?
1. GT Staking See 3.b.2(d), 4.a (Staker)	Buy GT; Choose a validator; Send your GT to the	IS (cryptocurrency equivalent) GT (the value is	Transaction fee (See 3.a.2.(F-H)) Anonymous payment system fee (See 4.b.1

	validator for staking.	market-determined)	(RoboMixer)) Validator registration fee
2. Transaction Validation See 3.b.2(d), 4.a (Validator)	Offer any server with broadband internet connection in Web3haven network; the server must be available at least 90% of time. Install Web3haven software in Validator mode. Apply for registration as validator. Pay 10,000 GT (network fee).	IS (cryptocurrency equivalent) GT (the value is market-determined)	Transaction fee (See 3.a.2.(F-H)) Anonymous payment system fee (See 4.b.1 (RoboMixer)) Other validator registration fee
3. Server Rental See 3.b.2(d), 4.a (Cloud Service Provider)	Offer your server(s) to Web3haven network (the more powerful the better) with broadband internet connection and availability of at least 98% of time. Install Web3haven software in Rental mode.	IS (cryptocurrency equivalent) GT (the value is market-determined)	Data storage fee Data access fee Software module execution fee

To acquire new users and increase the circulation of IS and GT (i.e. increase the income of stakers and validators), as well as to resolve the 'marketplace paradox' Web3haven provides the following set of private access services in Web3haven network:

- Cloud data storage and cloud computing
- Streaming and online libraries of texts, audio- and video recordings
- Secure and private/totally anonymous messaging and voice & video communication
- Online store
- Private social network
- Private video hosting

All the above services are protected by the algorithms and tools of Web3haven network. Web3haven will make further efforts to engage new suppliers and extend the range of products and services offered in Web3haven network.

6. Web3haven Closeout

6.a. Stipulation for Web3haven Closeout

If the number of IS in circulation during one (1) month stays higher than the emission limit (F = Z – 0.05*Z) or if during three (3) months it exceeds on three (3) occasions the emission limit Web3haven reserves the right to terminate IS sales and redemption (transition to the deflationary model) or increase the emission limit Z by the fixed value K = 1,000,000,000,000. In this case and in further iterations the emission limit Z and the new limit F will be calculated using the following formulas:

$$\begin{aligned} Z_i &= Z_{i-1} + K \\ F_i &= Z_i - 0,05 \cdot Z_i \end{aligned} \quad (1)$$

Where i – number of decisions about additional issue, $Z_0 = 1000000000$.

6.b. Web3haven Closeout Procedure

In case Web3haven resolves to transition to the deflationary model Web3haven will settle accounts with its creditors and will be liquidated. In order to further develop Web3haven and ensure that its objectives are maintained Web3haven will establish a nonprofit organization. Web3haven founders will become members of the management board of that nonprofit organization.

All the assets including cash funds designed for IS repurchase and fiat currencies in other accounts (“money”), securities, GT, IS and other digital assets (collectively, “digital assets”), intellectual property of Web3haven, all its movable property and real property (hereinafter – property) remaining after settlements with its creditors will be subject to distribution as follows:

1. Intellectual property will be transferred, free of charge, to the nonprofit organization;
2. Property required for operations of the nonprofit organization will be transferred to the nonprofit organization; Web3haven management board will resolve on the transfer of such property to the nonprofit organization;
3. Property that is not transferred to the nonprofit organization will be distributed among Web3haven founders and investors in kind or in cash funds after sales of such property, in proportion to the number of Web3haven governance tokens held by them;
4. If property is not claimed by Web3haven founders and investors in kind and/or it cannot be sold such property will be subject to disposal in the order as stipulated by laws of the country where such property is located, at the expense of Web3haven;
5. 20% of cash funds, digital assets, and securities will be remitted to a management fund selected and/or established to finance the nonprofit organization, develop Web3haven network software, and operate components of the network. Management board of the nonprofit organization will select and/or establish the appropriate management fund;
6. 5% of cash funds, digital assets, and securities will be distributed among Web3haven employees, excluding Web3haven founders and investors;
7. 75% of cash funds, digital assets, and securities will be distributed among Web3haven founders and

investors in proportion to the number of their respective Web3haven governance tokens.

The nonprofit organization will be established in order to:

- Support and maintain Web3haven ideology
- Develop and support process-related components of Web3haven network at the state-of-the-art level
- Implement technical and financial innovations in Web3haven network
- Finance and engage in R&D activity with the purpose of enhancing Web3haven network

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