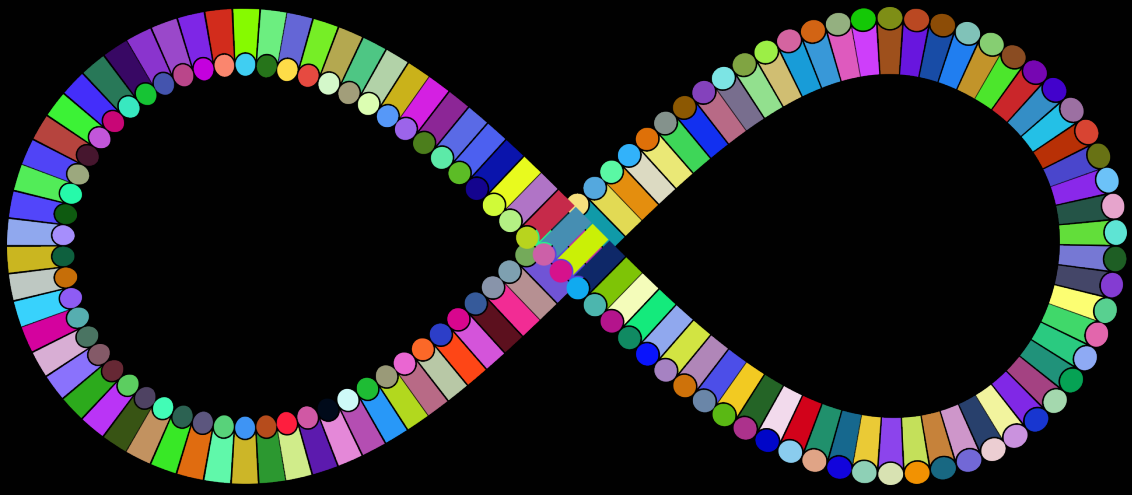
Wrapped Asset Project

Bringing the world’s assets to your favorite blockchain



Yellow Paper v1.0

Wrapped Asset Project (WRAP) brings the
world's assets to your favorite blockchain.

If you are an asset owner or financial institution,
WRAP enables you to generate interest-free cash flow.

If you are an investor, WRAP helps you to profit from
a virtually infinite buffet of investment opportunities.

Legal stuff

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WRAP tokens referred to in this and other documents are intended for use in the *WRAP* ecosystem.

Ownership of *WRAP tokens* carries no rights other than the right to use them as a means to obtain services, software, content or property, whether real or tangible personal property, in the *WRAP* ecosystem.

WRAP tokens do not represent or confer any ownership right or stake, share or security or equivalent rights, or any right to receive future revenue shares, intellectual property rights or any other form of participation in or relating to the *WRAP* ecosystem.

WRAP Tokens are not refundable and are not intended to be a digital currency, security, commodity or any other kind of financial instrument.

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Contents

1. Project Overview

A Wrapped Asset is a blockchain token pegged to or collateralized by an asset such as art, gold, fiat currency, debt instrument, equity shares, trade invoices, real estate, etc.

It's called a "wrapped" asset or token because the original asset is put in a "wrapper" or "digital vault" that enables the wrapped version to be traded on a blockchain.

Some of the benefits of wrapped assets are:

1. Fractionalized ownership
2. Real-time settlement
3. Programmability
4. Faster transactions
5. Fewer intermediaries
6. Decentralisation - users control the token using private keys
7. Enhanced transparency
8. 24 x 7 x 365 trading

Wrapped Asset Project (WRAP) brings the world's assets to your favorite blockchain.

If you are an **asset owner or financial institution**, WRAP enables you to generate interest-free cash flow. If you are an **investor**, WRAP helps you to profit from a virtually infinite buffet of investment opportunities.

The WRAP ecosystem includes:

- Future Money Wallet
- Hybrid Finance Blockchain
- WRAP tokens

Future Money Wallet serves as a faucet as well as a marketplace for Wrapped Assets.

Hybrid Finance (HyFi) blockchain is a Multichain network with zero transaction fees, high transaction speeds, 100% KYC & AML compliance, and very strong grievance redressal & dispute resolution mechanisms.

WRAP Tokens are proposed Open Blockchain Tokens under the laws of Wyoming, US. They serve as the liquidity layer for efficient exchange between wrapped assets across multiple blockchains. They can also be used for paying issuance, listing & other fees in the ecosystem.

Wrapped Assets can relate to:

1. Art & collectibles
2. Commodities
3. Cryptos
4. Debt instruments
5. Derivatives
6. Equity & stocks
7. Fiat currencies
8. Government Securities
9. Hybrid instruments
10. Intellectual Property Licenses
11. Invoices
12. Loyalty points
13. Open Blockchain Tokens
14. Real estate

Some of the most popular wrapped assets are:

1. Cryptos e.g. Wrapped Bitcoin (WBTC),
2. Stablecoins e.g. USDT, USDC,
3. NFTs (Non-Fungible Tokens), and
4. Tokenized stocks of companies such as Amazon and Apple.

Wrapped Assets can be issued on multiple blockchains including:

1. Algorand
2. Binance Smart Chain
3. Cardano
4. Ethereum
5. Flow
6. HyFi
7. Polkadot
8. Solana
9. Stellar
10. Tron

A mindmap of the Wrapped Asset Project

A mindmap of the HyFi Blockchain

1.1 Bank-operated fiat-backed stablecoins

A stablecoin is created when you wrap fiat currency. Fiat-backed Stablecoins are blockchain assets that are backed 1:1 with fiat currency.

Stablecoins combine the benefits of a blockchain (e.g. transparency and speed), without the inherent volatility risk of crypto-currencies.

Fiat-backed stablecoins enable fast financial processes, and have low to zero processing fees. They are transparent, borderless and programmable. Stablecoins can reduce counterparty and settlement risk, decrease capital requirements and enable instant value transfer.

Stablecoins are a technological innovation as well as a financial innovation.

Conventional payment systems involve the movement of E-money across multiple private databases (of banks, money transfer organizations etc.). This is why typical cross-border payments involve high cost and time.

Blockchain technology removes the characteristic of infinite reproducibility from a digital asset. It confirms that each unit of value was transferred only once, solving the long-standing problem of double spending.

A stablecoin runs on a blockchain, and not in private databases, and that is why movement of stablecoins can happen in real-time at near zero cost.

The United Nations recognizes 180 currencies across the world – Indian Rupee, US dollar, Euro, Japanese Yen, etc. E-money is a digital representation of fiat currency used to electronically transfer value denominated in fiat currency. E-money is a digital transfer mechanism for fiat currency – i.e. it electronically transfers value that has legal tender status.

Stablecoins are E-money and not virtual or crypto currencies. This makes stablecoins legal in most countries.

The *Stably Blog* has identified several use cases for stablecoins including:

1. Safe Haven Asset
2. Trading (by removing fiat on-ramps and off-ramps fees)
3. Payments (by removing 2-3% transaction fees)
4. Cross-border payments and remittance (by removing transaction fees and time delays)
5. Payroll
6. 24x7 settlements
7. Automated escrows
8. High-yield borrowing and lending
9. Alternative Banking
10. Powering Decentralized Applications

On 4th January 2021, *the United States Comptroller of the Currency* clarified national banks' and federal savings associations' authority to participate in independent node verification networks and use stablecoins to conduct payment activities and other bank-permissible functions.

What makes HyFi Stablecoins special?

We believe that because of its inherent advantages, including 100% KYC and AML compliance, *HyFi Blockchain* will emerge as the blockchain of choice for bank-operated fiat-backed stablecoins.

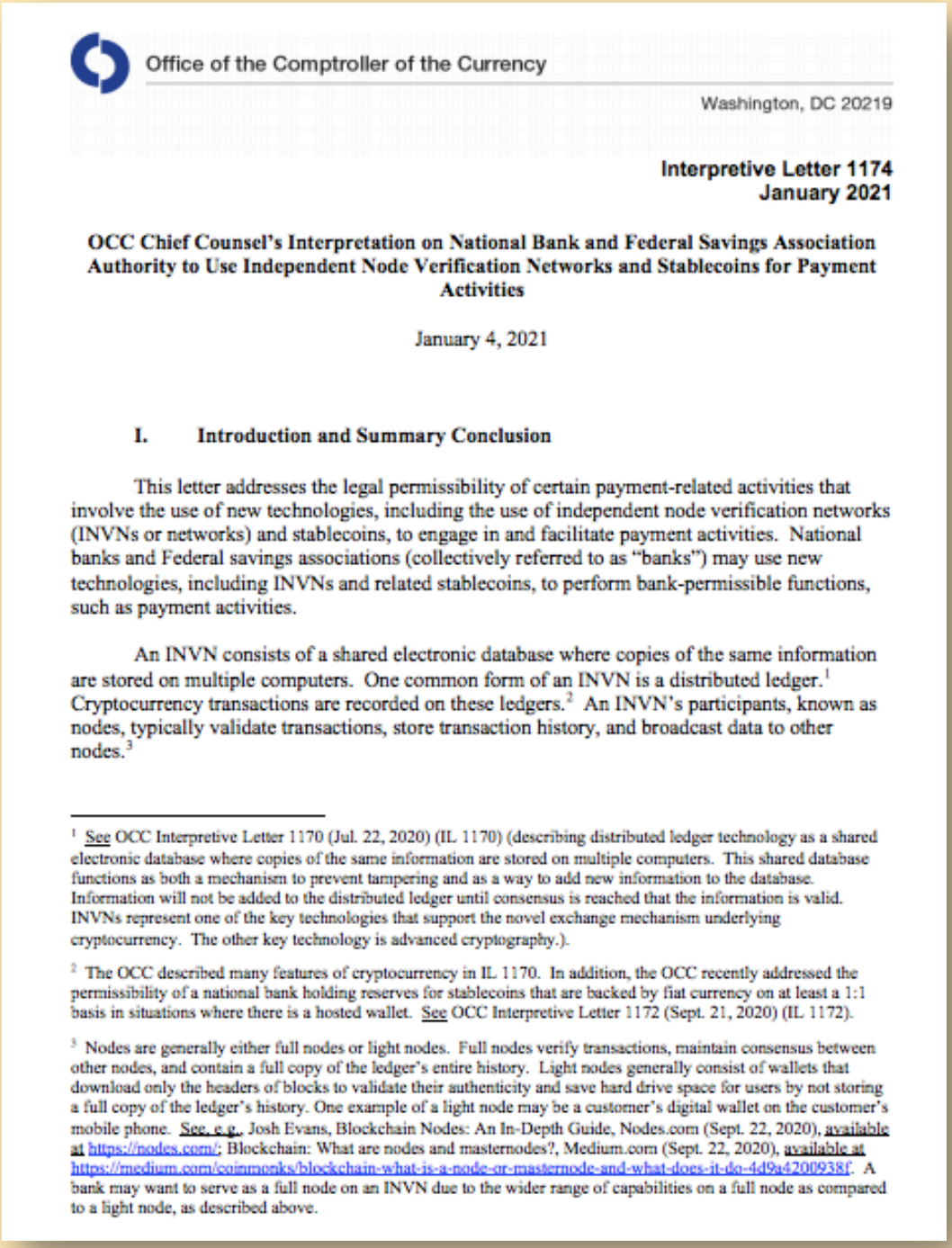
Since HyFi Stablecoin can only be issued by licensed banks, the counterparty risks, as well as regulatory constraints will be minimum.

Conventional stablecoins are not stable! Consider a USD pegged stablecoin like Tether (USDT), USD Coin (USDC), or Binance USD (BUSD). Their values are not $1 most of the time. Their all-time highs and lows are:

- USDT: $1.21 and $0.8995
- USDC: $1.11 and $0.9292
- BUSD: $1.11 and $0.8861

In case you are wondering, this does NOT include exchange fees or withdrawal fees. That's extra!

HyFi Stablecoins will always be stable – a USD stablecoin will always be priced at exactly $1, a Euro stablecoin will always be priced at exactly 1 Euro, and so on...



Office of the Comptroller of the Currency

Washington, DC 20219

Interpretive Letter 1174
January 2021

OCC Chief Counsel's Interpretation on National Bank and Federal Savings Association Authority to Use Independent Node Verification Networks and Stablecoins for Payment Activities

January 4, 2021

I. Introduction and Summary Conclusion

This letter addresses the legal permissibility of certain payment-related activities that involve the use of new technologies, including the use of independent node verification networks (INVNs or networks) and stablecoins, to engage in and facilitate payment activities. National banks and Federal savings associations (collectively referred to as "banks") may use new technologies, including INVNs and related stablecoins, to perform bank-permissible functions, such as payment activities.

An INVN consists of a shared electronic database where copies of the same information are stored on multiple computers. One common form of an INVN is a distributed ledger.[1] Cryptocurrency transactions are recorded on these ledgers.[2] An INVN's participants, known as nodes, typically validate transactions, store transaction history, and broadcast data to other nodes.[3]

[1] See OCC Interpretive Letter 1170 (Jul. 22, 2020) (IL 1170) (describing distributed ledger technology as a shared electronic database where copies of the same information are stored on multiple computers. This shared database functions as both a mechanism to prevent tampering and as a way to add new information to the database. Information will not be added to the distributed ledger until consensus is reached that the information is valid. INVNs represent one of the key technologies that support the novel exchange mechanism underlying cryptocurrency. The other key technology is advanced cryptography.).

[2] The OCC described many features of cryptocurrency in IL 1170. In addition, the OCC recently addressed the permissibility of a national bank holding reserves for stablecoins that are backed by fiat currency on at least a 1:1 basis in situations where there is a hosted wallet. See OCC Interpretive Letter 1172 (Sept. 21, 2020) (IL 1172).

[3] Nodes are generally either full nodes or light nodes. Full nodes verify transactions, maintain consensus between other nodes, and contain a full copy of the ledger's entire history. Light nodes generally consist of wallets that download only the headers of blocks to validate their authenticity and save hard drive space for users by not storing a full copy of the ledger's history. One example of a light node may be a customer's digital wallet on the customer's mobile phone. See, e.g., Josh Evans, Blockchain Nodes: An In-Depth Guide, Nodes.com (Sept. 22, 2020), available at https://nodes.com/; Blockchain: What are nodes and masternodes?, Medium.com (Sept. 22, 2020), available at https://medium.com/coinmonks/blockchain-what-is-a-node-or-masternode-and-what-does-it-do-4d9a4200938f. A bank may want to serve as a full node on an INVN due to the wider range of capabilities on a full node as compared to a light node, as described above.

The United States Office of the Comptroller of the Currency (OCC) has allowed national banks and federal savings associations to participate in independent node verification networks (INVN) and use stablecoins to conduct payment activities and other bank-permissible functions.

See:
https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-2a.pdf

1.2 Wrapped Intellectual Property

When you buy a book, you can read it. But you cannot translate it into another language and start selling the translated version. With a Wrapped Intellectual Property License, the author can give you translation and other rights.

Intellectual property (IP) refers to creations of the mind, such as: inventions, literary & artistic works, designs; and symbols, names and images used in commerce. The various types of IP include:

1. **Copyright:** rights that creators have over their literary and artistic works e.g. books, music, paintings, sculpture, films, computer programs, databases, advertisements, maps, technical drawings, etc.

2. **Patents:** exclusive right granted for an invention.

3. **Trademarks:** a sign capable of distinguishing the goods or services of one enterprise from those of other enterprises.

4. **Industrial designs:** the ornamental or aesthetic aspect of an article. A design can have 3-dimensional features e.g. shape or surface of an article, or 2-dimensional features e.g. patterns, lines or color.

5. **Geographical indications:** signs used on goods that have a specific geographical origin e.g. Kanjeevaram sarees, Scotch whisky.

6. **Trade secrets:** Trade secrets are IP rights on confidential information which may be sold or licensed.

Intellectual property markets have complex licensing & paperwork requirements. Wraps enable quick tokenization and monetization of IP.

All forms of intellectual property can be wrapped and monetized with the Wrapped Asset Project.

1.3 Open Blockchain Tokens

There are several blockchain funding models such as:

1. Initial Coin Offering (ICO)
In an ICO, investors fund a blockchain project in return for cryptocurrencies which are expected to increase in value over time. The funding is based primarily on information provided by the project's whitepaper, website, and social media accounts.

2. Reverse ICO
In a reverse initial coin offering (ICO), an existing, established real-world business issues a token to decentralize its ecosystem, and raise funds.

3. Initial Exchange Offering (IEO)
An IEO is very similar to an ICO. The only difference is that the funding is based around a crypto exchange.

4. Initial DEX Offering (IDO)
In an IDO, the tokens are launched through a decentralized exchange (DEX).

5. DAICO
A DAICO combines the characteristics of a Decentralized Autonomous Organization (DAO) with that of an Initial Coin Offering (ICO). A DAICO can make an ICO more secure by involving investors in the initial project development process. It enables token holders to vote for the refund of the contributed funds if they are not happy with the progress being made by developers.

6. Equity Token Offerings (ETOs) & Security Token Offerings (STOs)
In an ETO / STO, the investors get pro-rata ownership in the company as well as dividend and voting rights.

7. Simple Agreement for Future Tokens (SAFT)
A SAFT is an investment contract that is considered a security. It is offered by a cryptocurrency project to accredited investors.

The biggest challenge in all these fundraising methods is the legal gray areas. A classic example is Telegram's unregistered offering of digital tokens (Grams), which was held to violate the US federal securities laws.

Telegram (the company behind the famous messaging app) had to return more than $1.2 billion to investors and pay $18.5 million in penalties.

Open Blockchain Token Offering (OBTO)

We propose a brand new way of fundraising – Open Blockchain Token Offering (OBTO).

An Open Blockchain Token (OBT) is defined under the laws of the US state of Wyoming (W.S. 17-4-206) as a digital unit which is:

(i) Created:

- (A) In response to the verification or collection of a specified number of transactions relating to a digital ledger or database;

- (B) By deploying computer code to a blockchain network that allows for the creation of digital tokens or other units; or

- (C) Using any combination of the methods specified in subparagraphs (A) and (B) of this paragraph.

(ii) Recorded in a digital ledger or database which is chronological, consensus-based, decentralized and mathematically verified in nature, especially relating to the supply of units and their distribution; and

(iii) Capable of being traded or transferred between persons without an intermediary or custodian of value.

2. WRAP Tokens

WRAP Token is proposed to be an Open Blockchain Token under the laws of Wyoming, US.

WRAP Tokens will be issued on multiple blockchains. A maximum of only 1 billion (1,000,000,000) WRAPs will be in circulation, across all blockchains, at any given point of time.

WRAP tokens provide the primary liquidity layer for efficient exchange between wrapped assets. They can also be used as a mechanism for paying issuance, listing and other fees.

Important

1. WRAP tokens are not digital currencies, securities or commodities.

2. WRAP tokens referred to in this and other documents are intended for use in the WRAP ecosystem.

3. Ownership of WRAP tokens carries no rights other than the right to use them as a means to obtain services, software, content or property, whether real or tangible personal property, in the WRAP ecosystem.

4. WRAP tokens do not represent or confer any ownership right or stake, share or security or equivalent rights, or any right to receive future revenue shares, intellectual property rights or any other form of participation in or relating to the WRAP ecosystem.

5. WRAP Tokens are not refundable and are not intended to be a digital currency, security, commodity or any other kind of financial instrument.

Background

According to Wyoming Utility Token Act-property amendments, certain open blockchain tokens may be restricted to only be exchangeable for specified consumptive purposes, including services, software, content or property, whether real or tangible personal property, and do not entitle a token holder to a cash payment or a share of profits from the technology developer or business that created the token.

Open blockchain tokens with specified consumptive purposes are similar to loyalty programs operated by many businesses today, in which an individual is provided with services, content or property redeemable from the developer or business in exchange for a specified number of transactions or cash paid to the developer or business.

The open blockchain tokens governed by this act do not constitute securities because a person who is sold a consumptive open blockchain token cannot receive a cash payment or share of profits from a developer or business, but will instead receive a fixed amount of consumable services, content or property.

Because of the consumptive nature of open blockchain tokens and for the other reasons specified above, these tokens are properly classified as intangible personal property under Wyoming law and, therefore, do not require an exemption from securities laws.

Relevant Wyoming laws

- WS 40-29-101: Financial Technology Sandbox Act (Chapter 29 of Title 40).
- WS 17-16-140: Electronic corporate records (Chapter 16 of Title 17). The list of relevant sections is here.
- WS 39-11-105: Exemptions of virtual currencies from property taxation (Chapter 11 of Title 39). See 39-11-105 (b)(vi)(A).
- WS 34-29-101 through 34-29-105: Digital Assets (Chapter 29 of Title 34) and WS 34-29-106: Wyoming Utility Token Act (Chapter 29 of Title 34)

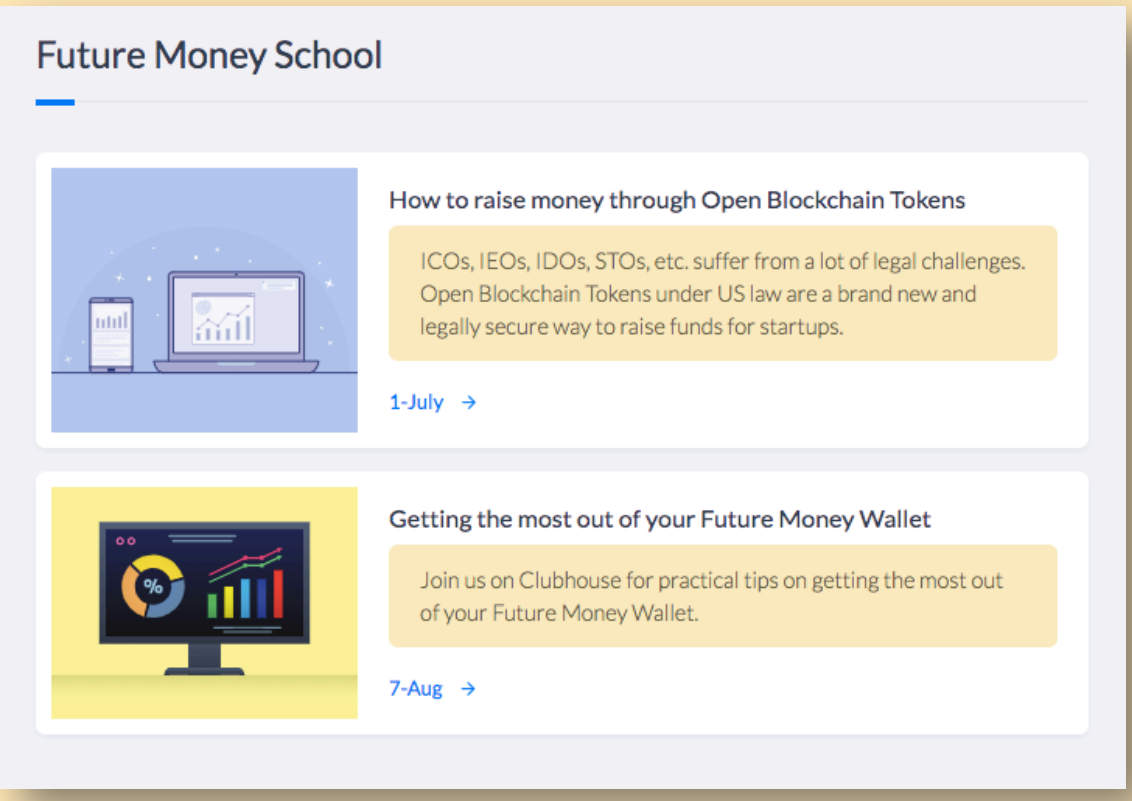
- For details on corporate stock-certificate tokens, see 17-16-140 (Definitions), 17-16-605 (Construction of terms relating to stock and certificate tokens) and 17-16-625 (Form and content of certificates) - (Chapter 16 of Title 17)

2. Future Money Wallet


$173,450
TOTAL PORTFOLIO
MONEY
AMOUNT
%
Commodities
$12,141.50
7 %
Crypto Assets
$22,548.50
13 %
Debt instruments
$8,672.50
5 %
Derivatives
$10,407
6 %
Equity & stocks
$27,752
16 %
Dashboard
fmCard
Learn & Earn
Grow
Tools
Send / receive
Commodities
Crypto Assets
Debt instruments
Derivatives
Equity & stocks
Government Securities

You whip out your smartphone and within minutes you've
... swapped a bundle of cryptos for equity in an innovative startup
... bought partial ownership of the copyright in your favourite movie
... liquidated your copper and zinc holding
... invested in fractional ownership of an office building
... learned about total return swaps

That's the vision of the Future Money Wallet



Learn

Learn everything you need to know about money.

Future Money Wallet users get exclusive access to free and premium courses. You can unlock badges, secret features and even earn crypto with every course you complete!

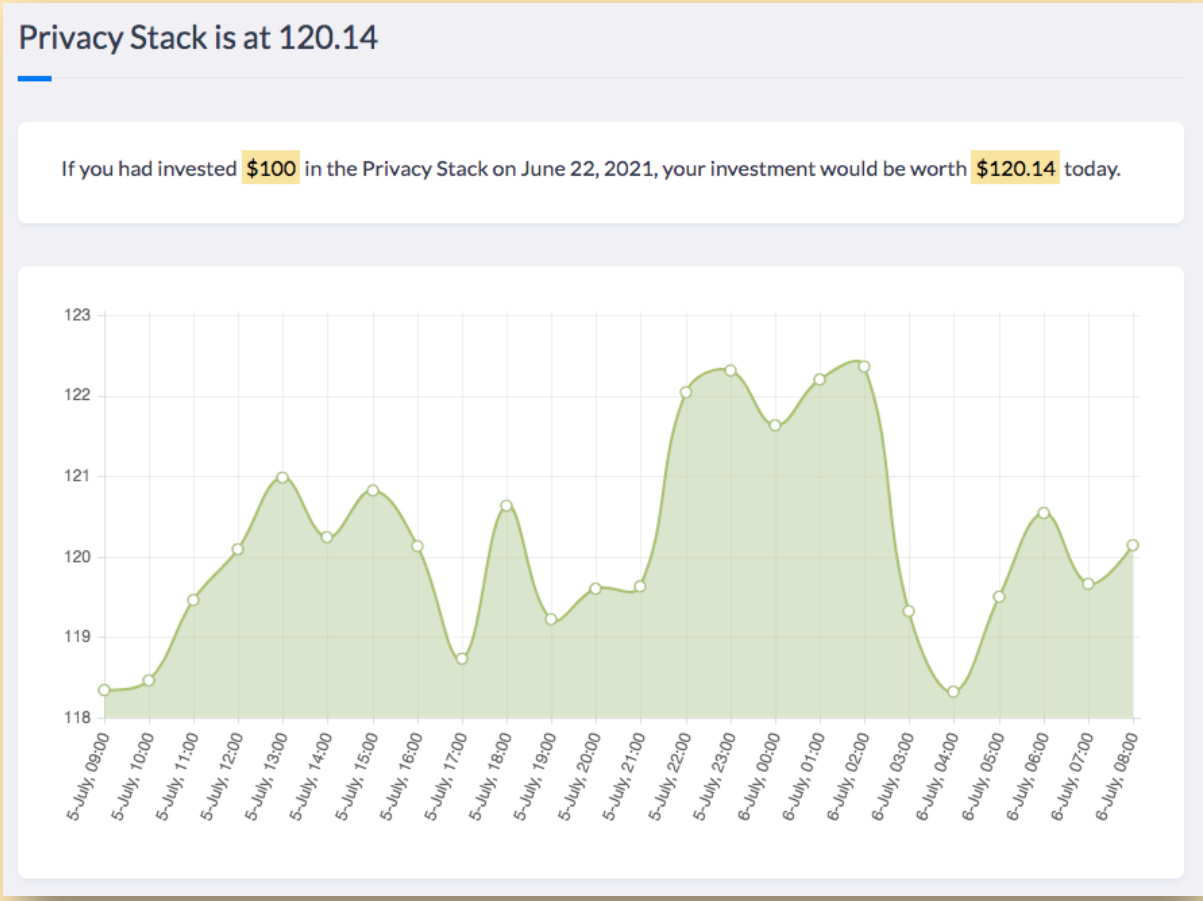
Money Stacks

Reduce your risks with Money Stacks

Investing in multiple assets can cushion against volatility in a specific asset. Money Stacks are portfolios or bundles of assets created by experts and backed by tons of research.

Future Money Stacks include:

1. Bitcoin Stack
2. Blockchain Stack
3. Crypto-6
4. DeFi Stack
5. Ethereum Stack
6. Metal Stack
7. Privacy Stack
8. Stock Stack



Future Money Index

Most financial indexes are based on 1 market and 1 jurisdiction e.g. the US SPX 500 is based on the stock price of US publicly traded companies, while the London Metal Exchange Index comprises 6 metals.

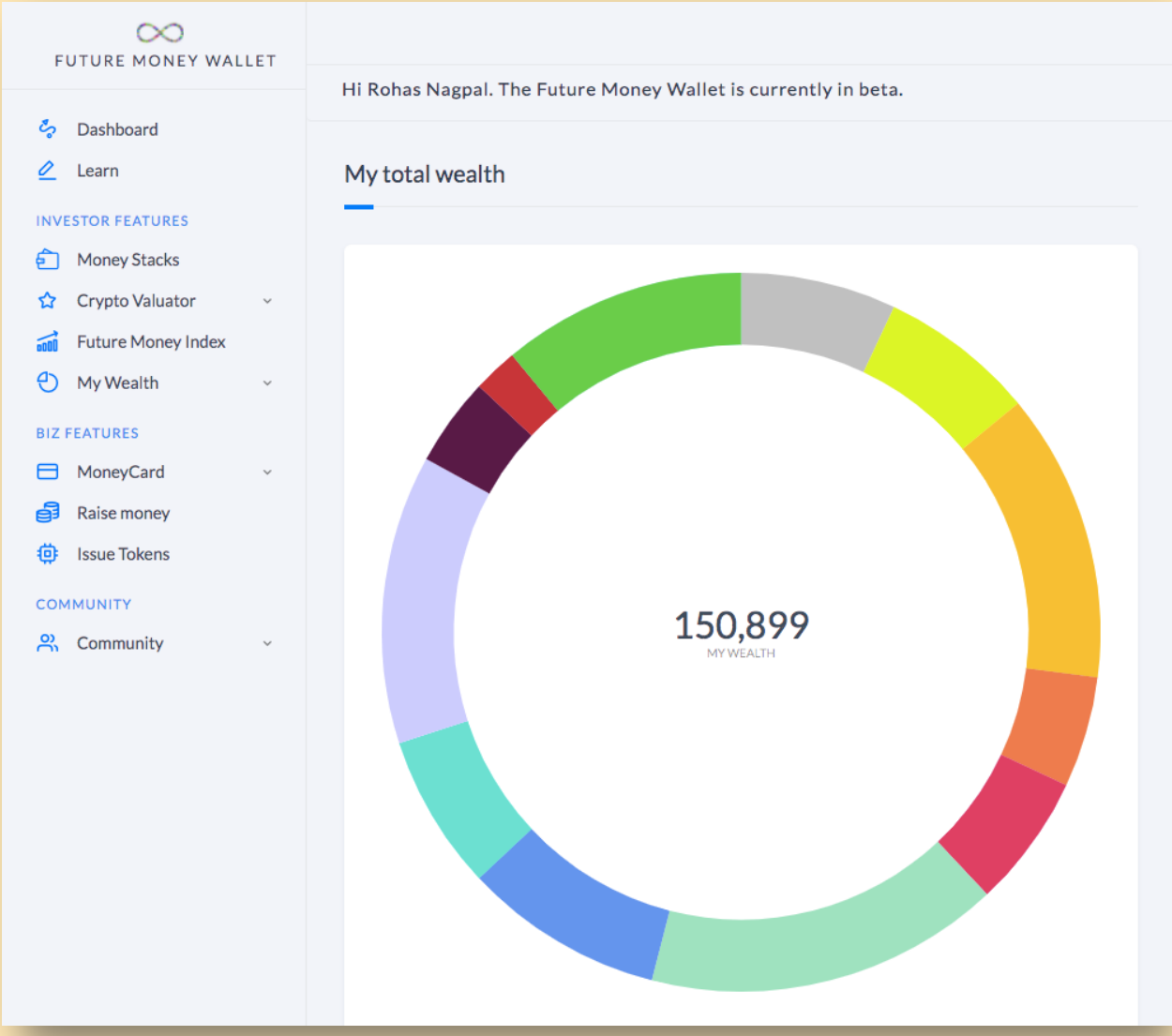
Future Money Index is the first of its kind index based on multiple assets from multiple money classes from multiple economies.

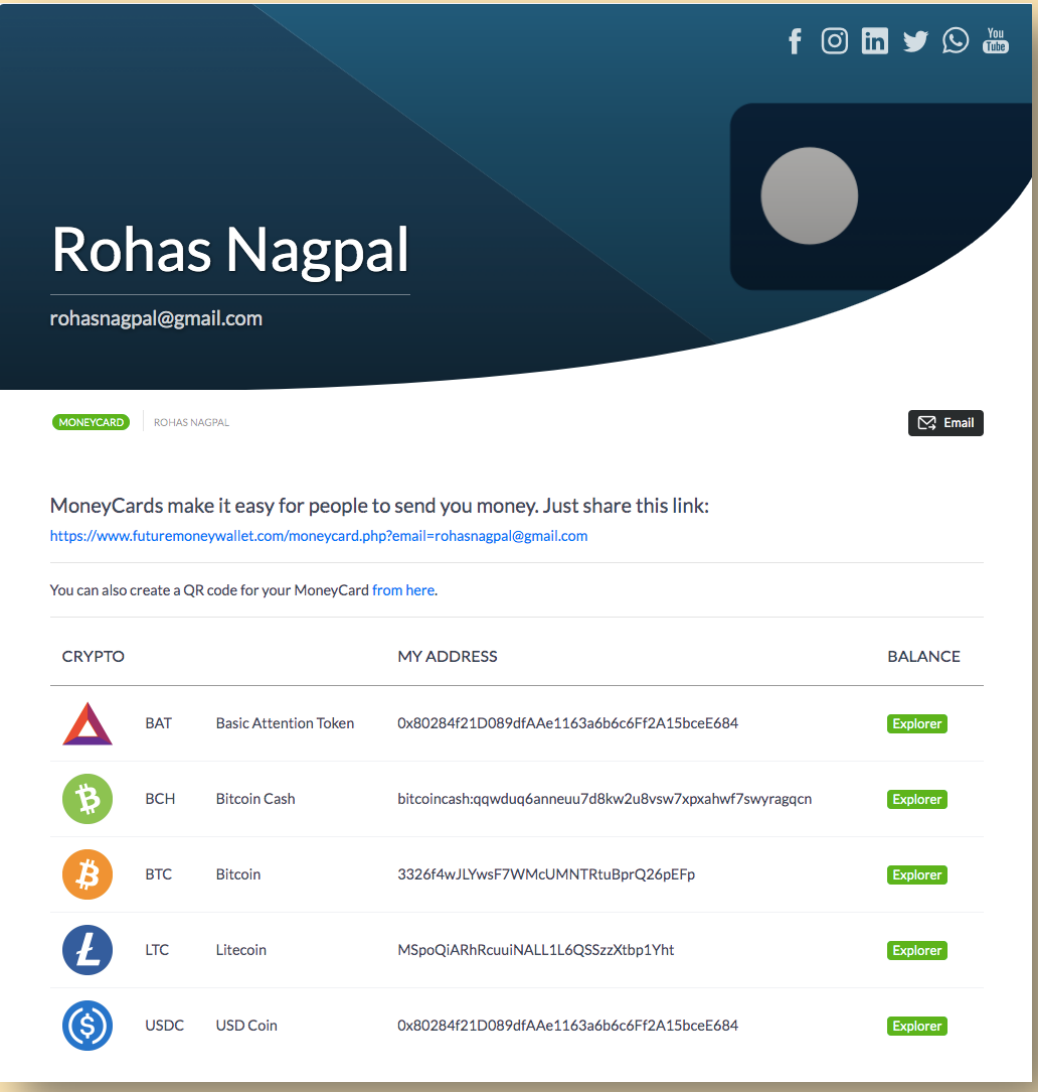
This includes Intrinsic Money, Political Money, Corporate Money, Individual Money, Math Money, Privacy Coins.

Track all your wealth

It is essential for everyone to monitor their wealth constantly. And not just bank balances and stock investments, but their entire wealth.

The Future Money Wallet makes it easy for you to track all your wealth - Art & collectibles, Cash & bank balances, Commodities, Cryptos, Debt instruments, Derivatives, Equity & stocks, Government Securities, Hybrid instruments, Intellectual Property Licenses, Invoices, Loyalty points, and Real estate.





Easier crypto payments

Money Cards make it easy for your clients to pay you in crypto.

Cryptos are fast emerging as one of the best ways to make global and even domestic payments. But handling multiple crypto addresses can be a huge pain. And if someone mistakenly sends crypto to the wrong address, then the crypto is lost forever!

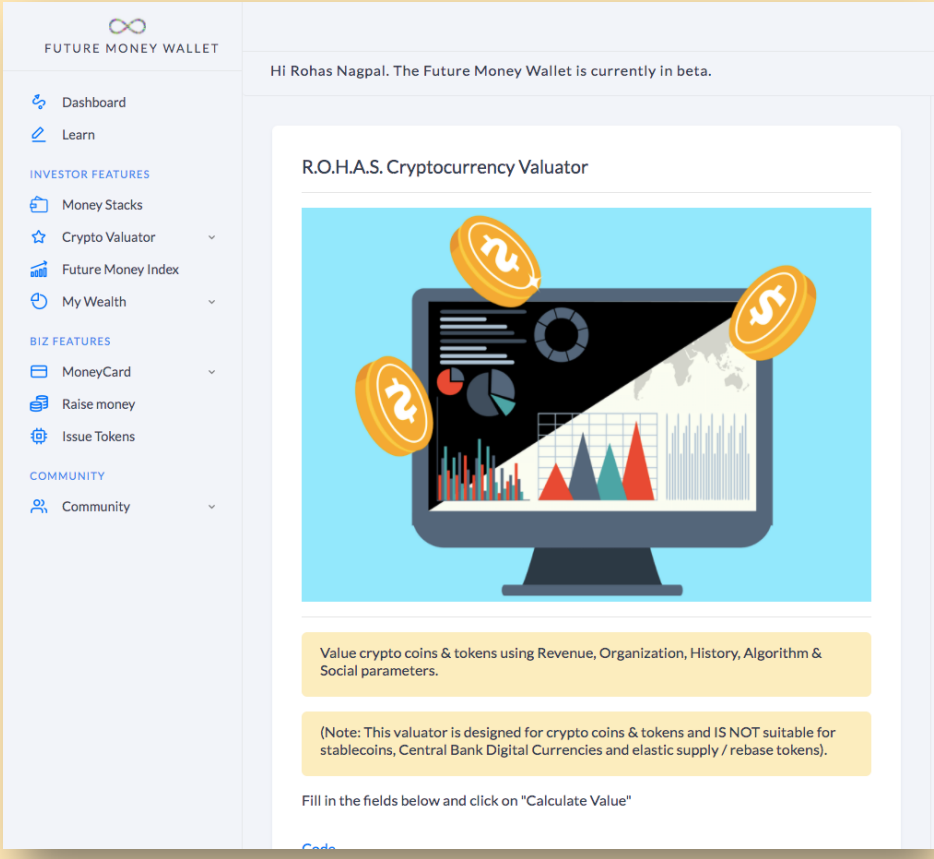
Money Cards make it easy to send crypto addresses to your clients. And you can track your balances in real time without needing to enter your private keys anywhere!

Crypto Valuator

Are your crypto investments based on mathematical valuations or guesswork? If you said 'guesswork', you are not alone.

You can use the R.O.H.A.S. Cryptocurrency Valuator to value crypto coins & tokens using Revenue, Organization, History, Algorithm & Social parameters.

You can also compare how close your valuations are to the real-time prices of your cryptos.



4. HyFi Blockchain

4.1 Blockchain & crypto ecosystem

Imagine a world without computer databases. There would be no e-commerce, no ATMs, no Internet banking, no email, no social media networks, no instant messengers!

Almost everything that makes the Internet so powerful and useful depends upon computer databases. The digital world relies very heavily on computer databases, even though most users are unaware of it.

Now imagine a database that is provably immutable / unchangeable and almost impossible to hack. That's a blockchain.

At its core, a blockchain is an ordered and time-stamped sequence of "blocks of information".

1. Blockchain technology was invented by the unknown inventor of the bitcoin crypto-currency in 2008. Simply put, the bitcoin crypto-currency runs on the bitcoin blockchain — a public blockchain where anyone can become a miner and details of every single bitcoin transaction are stored on each node.

2. Blockchain is an innovative mix of decades old, tried and tested technologies including Public key cryptography (1970s), Cryptographic hash functions (1970s) and proof-of-work (1990s).

3. Over the last few years, many public blockchains have gained popularity – Algorand, Binance Smart Chain, Cardano, Ethereum, Flow, Polkadot, Solana, Stellar, Tron, etc.

4. Blockchains are provably immutable and enable the rapid transfer and exchange of crypto-tokens (which can represent assets) without the need for separate clearing, settlement & reconciliation.

5. Blockchain solutions can be permissioned (e.g. a Government-run land registry) or permission-less e.g. Bitcoin.

6. Blockchain solutions can be private (e.g. a contract management system implemented in a pharmaceutical company), public (e.g. an asset backed cryptocurrency) or hybrid (e.g. a group of banks running a shared KYC platform).

7. Blockchains can handle data authentication & verification very well. This includes immutable storage (data stored on a blockchain cannot be changed or deleted), digital signatures and encryption. Data in almost any format can be stored in the blockchain.

8. Blockchains can create public-private key pairs and also be used for generating and verifying digital signatures.

9. Blockchains can handle smart asset management very well. This includes issuance, payment, exchange, escrow, and retirement of smart assets. A smart/crypto asset is the tokenized version of a real-world asset e.g. gold, silver, oil, land.

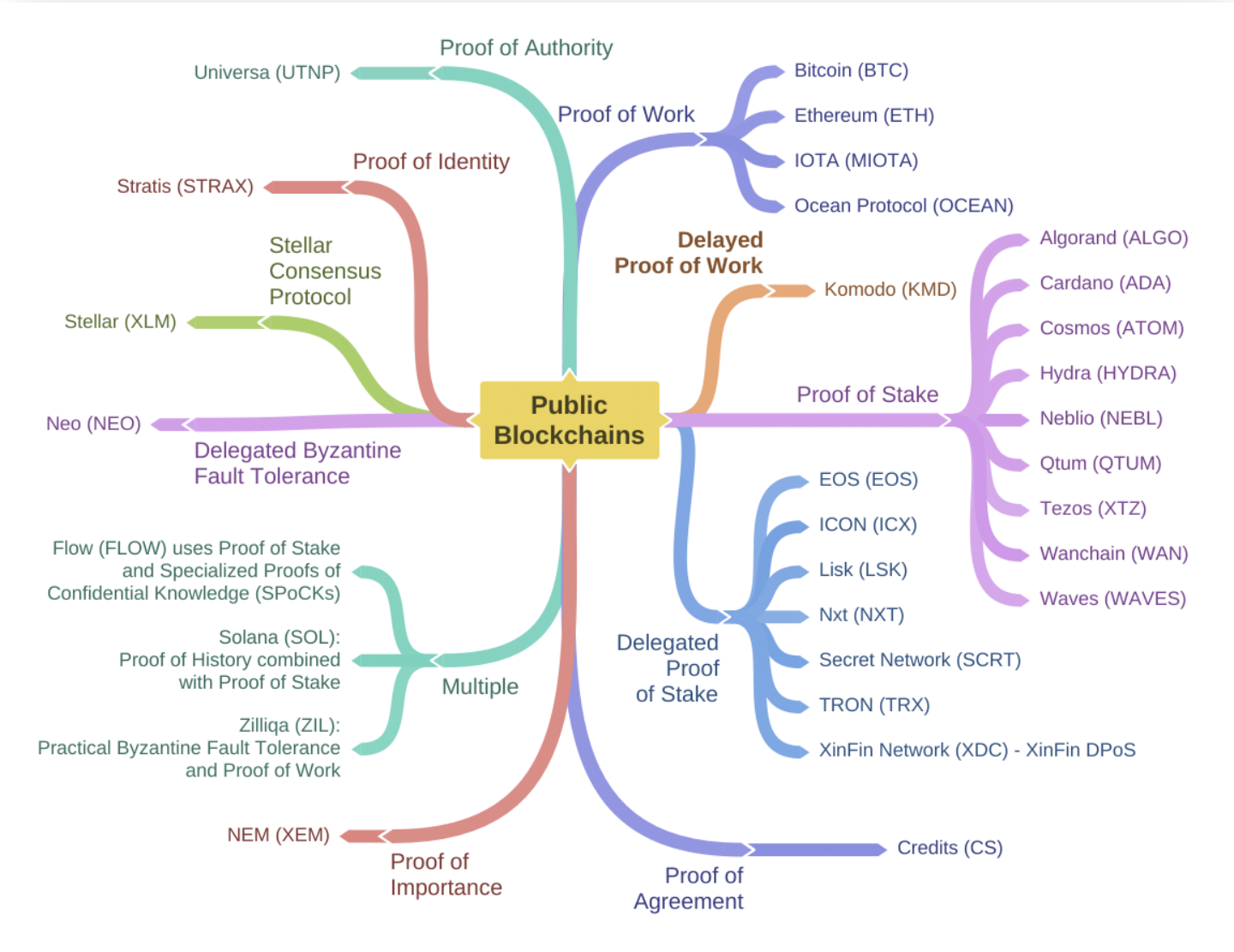
10. Blockchains do not have a single point of control or a single point of failure.

11. For organizations, blockchain technology can minimize fraud; accelerate information and money flow; greatly improve auditability and streamline processes.

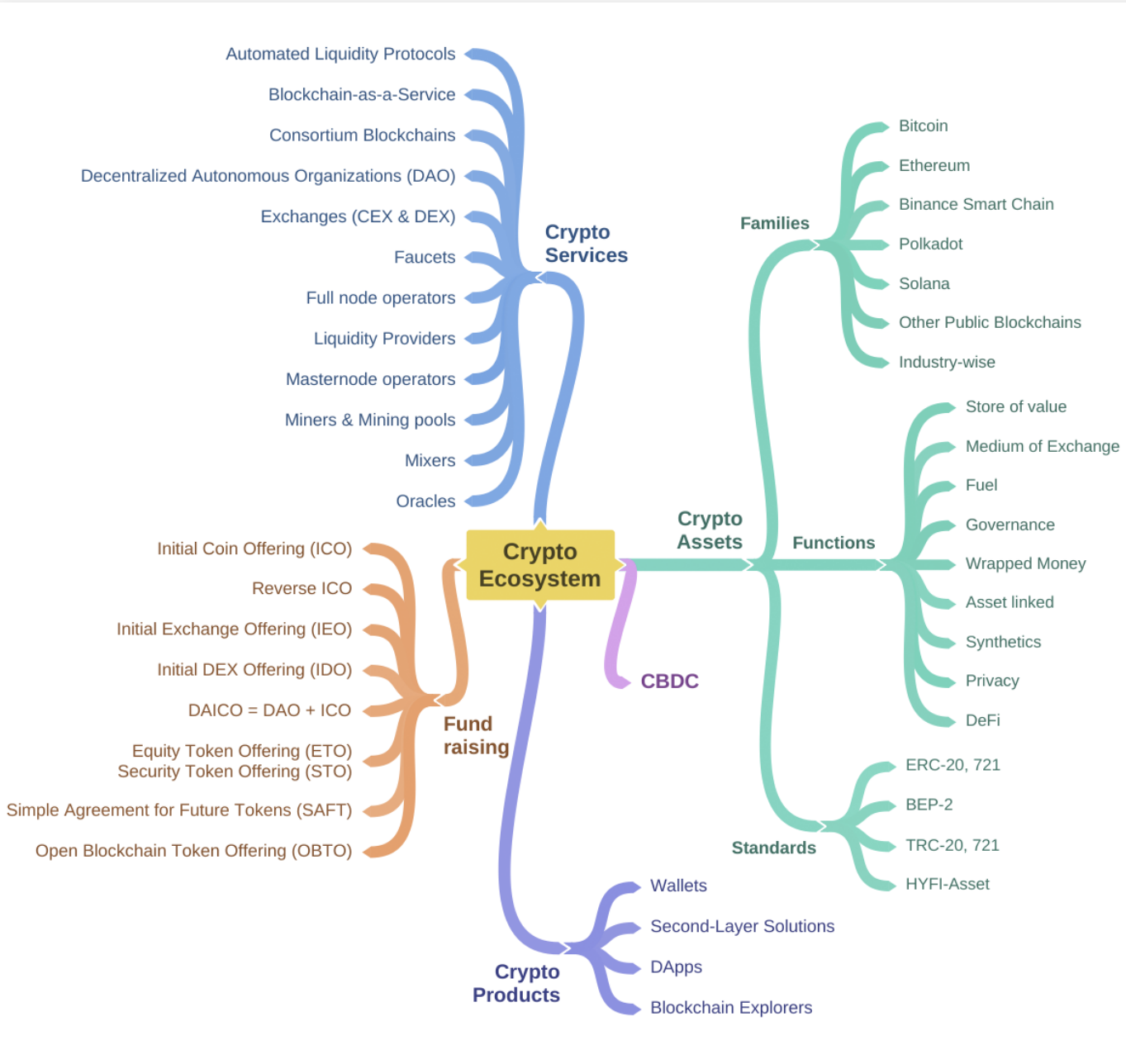
12. The original blockchain, which powers the bitcoin crypto-currency, used proof of work as a consensus mechanism. But today there are multiple distributed ledger systems that offer a host of consensus mechanisms such as Proof of stake, Byzantine fault tolerant, Proof of Elapsed Time, Round Robin, Delegated Proof of Stake, etc.

13. One method of providing privacy on a blockchain is the separation of concerns, in which data is sent only to the relevant parties of a transaction. Optionally, the hash of the data is broadcast to all the nodes. This method is used in Corda, Quorum, and Hyperledger Fabric.

14. Another method of providing privacy on a blockchain involves broadcasting of encrypted data across the entire network.



A mindmap of the major Public Blockchains



A mindmap of the Crypto Ecosystem

4.2 Decentralised Finance (DeFi)

DeFi (Decentralized Finance) is an umbrella term for financial applications powered by blockchain technology.

The DeFi Ecosystem primarily consists of Public Blockchains, Oracles, Cryptocurrencies, Services, Decentralised Apps and Fund raising mechanisms.

DeFi problems

DeFi has become a "wild and lawless" environment where there are virtually no regulators (pun intended). There are many problems that are holding back the decentralized finance system from mass adoption.

1. High & unpredictable transaction fees

Public blockchains require fees to be paid using cryptocurrency. As the project becomes more successful, its cryptocurrency becomes more expensive.

Transactions fees are very high and unpredictable, especially in the DeFi market leader Ethereum. The increasing use of DeFi protocols, dApps, and applications built on top of Ethereum has overloaded the network to the point where its fee is almost unsustainable. The average transaction cost on Ethereum has catapulted from less than $5 in 2020 to about $40 in February 2021.

An Ethereum based social media token project, Unite, announced on 10 February 2021 that the project was no longer in active development, adding that the original idea for the project had been rendered unfeasible by the recent gas price spike. The average cost of using Ethereum increased 35,600% since January 2020.

2. Slow transaction speed
Many public blockchains have slow transaction speeds. See details here: https://alephzero.org/blog/what-is-the-fastest-blockchain-and-why-analysis-of-43-blockchains/

3. Zero support for KYC (Know Your Customer)
Most public blockchains are permissionless. This means that anyone can read, write and validate. There is zero KYC (Know Your Customer) compliance.

4. Zero support for AML (Anti-Money Laundering)
Most public blockchains are permissionless. This means that anyone can read, write and validate. There is zero AML (Anti-Money Laundering) compliance.

5. Fake dApps, apps, & wallets
Recently an Apple user lost his life savings of $600,000 in Bitcoin when he installed a fake Trezor wallet app on his iPhone. Something similar also took place through a fake app on the Google Play Store. In another case, malware that replaced victims' cryptocurrency wallet addresses also spread through a "MetaMask" impersonator app. Such incidents are fairly common.

6. Large number of scams and rug pulls
A recent fraud around WoToken cost more than a billion dollars! According to a CipherTrace report, DeFi "rug pulls" and exit scams were the biggest chunk of crypto fraud schemes in 2020. A rug pull begins with criminals minting a new token, hyping it, listing it on Uniswap, and then providing liquidity. Once victims swap their ETH for this new token, the criminals "drain the liquidity pool" and leave the victims with a worthless token.

7. Unsustainably high energy consumption
The energy consumption and environmental cost of Proof-of-Work blockchains like Bitcoin and Ethereum are massive.

8. Creation of a new set of intermediaries
DeFi was supposed to reduce the cost and time taken for financial activities by removing intermediaries. Instead, it has created a new class of intermediaries such as miners and node operators.

9. Duplicate ticker symbols
Duplicate ticker symbols bring in a very high risk of financial loss as an investor can easily end up buying the wrong crypto. An example: BitRewards, BitMoney, and First Bitcoin have the same ticker symbol - BIT.

10. Low to zero grievance redressal mechanisms
Many public blockchains have not only anonymous users but also anonymous creators, developers, and managers! In such a scenario, there are very low to zero grievance redressal mechanisms.

11. Low to zero consumer protection
Many public blockchains have not only anonymous users but also anonymous creators, developers, and managers! In such a scenario, there are very low to zero customer protection mechanisms.

12. No insurance cover
Public blockchains do not have insurance coverage like banks do.

13. Vulnerability of Smart Contracts
A small mistake in the code of a smart contract can lead to a huge financial loss. A case in point is the multi-million Ethereum DAO hack of 2016.

14. Complexity
DeFi solutions are not easy to use. In many cases, less sophisticated users end up sending assets to the wrong address, leading to huge financial losses.

15. Unpredictable yields
DeFi is ruled by highly volatile cryptocurrencies. This adds a huge amount of unpredictability to the yields.

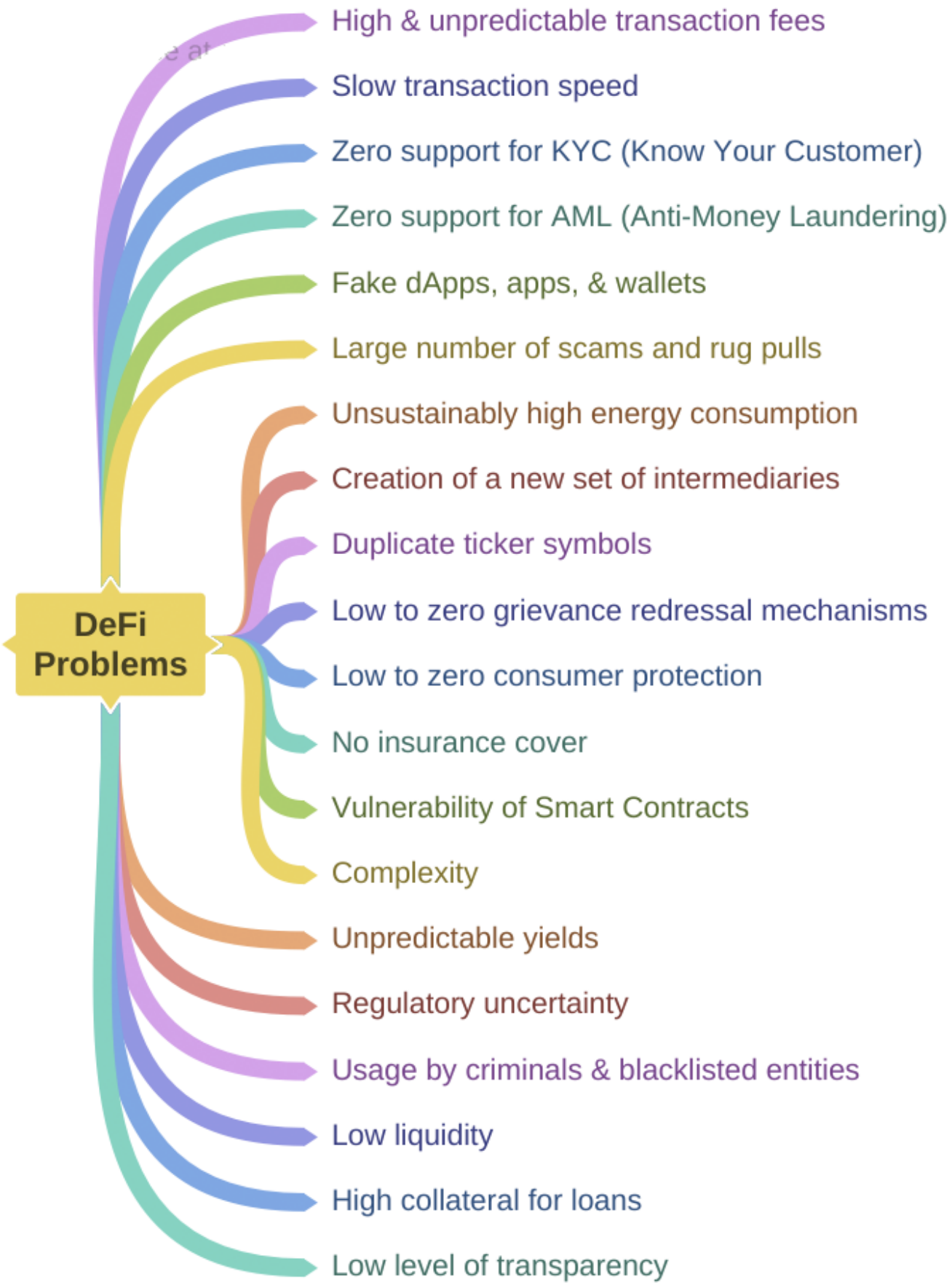
16. Regulatory uncertainty
Some jurisdictions are pro-DeFi, some are clearly anti-DeFi and the rest are still making up their minds. This creates a lot of fear, uncertainty, and doubt.

17. Usage by criminals and blacklisted entities
The absence of regulators and the high level of anonymity means you could end up transacting with criminals and blacklisted entities.

18. Low liquidity
There are thousands of cryptocurrencies out there. A majority of these have low liquidity which means you may get stuck trying to exit or book profits.

19. High collateral for loans
Unlike the CeFi world, the collateral requirement for DeFi loans is very high.

20. Low level of transparency
While nodes can be operated by anyone in the world, who is actually managing the project? That's something not answered clearly by most public blockchains.


DeFi Problems
High & unpredictable transaction fees
Slow transaction speed
Zero support for KYC (Know Your Customer)
Zero support for AML (Anti-Money Laundering)
Fake dApps, apps, & wallets
Large number of scams and rug pulls
Unsustainably high energy consumption
Creation of a new set of intermediaries
Duplicate ticker symbols
Low to zero grievance redressal mechanisms
Low to zero consumer protection
No insurance cover
Vulnerability of Smart Contracts
Complexity
Unpredictable yields
Regulatory uncertainty
Usage by criminals & blacklisted entities
Low liquidity
High collateral for loans
Low level of transparency

4.3 HyFi Blockchain

The traditional Centralized Finance (CeFi) system suffers from many problems including those of access, efficiency, time, and cost.

Decentralized Finance (DeFi) is an umbrella term for financial applications powered by public blockchains. DeFi was supposed to solve the problems of CeFi, but it has created a new set of problems, including high & unpredictable transaction fees; slow transaction speed; zero support for KYC & AML, etc.

The Hybrid Finance (HyFi) Blockchain has been developed to bridge the world of centralised and decentralised finance.

HyFi Blockchain, a public blockchain with the following characteristics:

1. Zero transaction fees
2. High transaction speeds
3. 100% KYC (Know-Your-Customer) verification of all participants
4. 100% AML (Anti-Money Laundering) compliance
5. Operated by verified entities
6. No native cryptocurrency
7. Unprecedented level of transparency
8. Very strong grievance redressal & dispute resolution mechanisms
9. Very low energy consumption

FAQs

1. What is the HyFi Blockchain?
HyFi Blockchain is the world's first public blockchain that ensures 100% KYC and AML. It also has zero transaction fees, high transaction speeds, and is operated by verified entities. *HyFi Blockchain* also has no native cryptocurrency, offers an unprecedented level of transparency, has very strong grievance redressal & dispute resolution mechanisms, and consumes very little energy. This will make it the first choice for financial institutions and corporates around the world.

2. How is HyFi Blockchain different from other public blockchains like Ethereum?
Most public blockchains including Ethereum are plagued by serious problems such as high & unpredictable transaction fees; slow transaction speed; zero support for KYC & AML.

3. What consensus model does the HyFi Blockchain use?
HyFi Blockchain uses the *Multichain* framework with distributed consensus between identified block validators. It's close in spirit to something like PBFT (Practical Byzantine Fault Tolerance), but instead of multiple validators per block, there is one validator per block, working in a round-robin type of fashion.

5. Who can operate a HyFi Blockchain node?
Any verified individual or entity can operate a node.

6. Are there rewards for running a HyFi Blockchain node?
No. We expect nodes to be operated by institutions and startups who want to integrate HyFi Blockchain API into their systems.

8. Why would developers prefer *HyFi Blockchain* ?
HyFi Blockchain APIs can be integrated by developers into wallets and DApps without having to learn a new programming language. *HyFi Blockchain* is compatible with any API library developed for Bitcoin Core. This would make it very easy to integrate *HyFi Blockchain* into conventional mobile and web apps.

4.4 Multichain Technology

HyFi Blockchain uses the *Multichain* framework with distributed consensus between identified block validators. It's close in spirit to something like PBFT (Practical Byzantine Fault Tolerance), but instead of multiple validators per block, there is one validator per block, working in a round-robin type of fashion.

It's described in detail in the 'Mining in MultiChain' section beginning on page 7 of the white paper at: http://www.multichain.com/white-paper

Why Multichain?

1. **High speed:** Greater than 1000 tps, which includes signature verification & transaction processing i.e. real Byzantine. Block time as low as 2 seconds

2. **High scalability:** Supports millions of addresses, assets, streams and unlimited transactions / stream items. Also supports unlimited nodes in network.

3. **High security:** Forked from Bitcoin Core; Full multi-signature support; External key management (Bitcoin hardware security modules).

4. **Unified JSON-RPC API for applications:** API cleanly separates app from node; Compatible with any API library developed for Bitcoin Core.

5. **Flexible assets:** No need for smart contracts; Flexible asset metadata; Permissioned follow-on issuance; Atomic multi-asset payments; Multi-way atomic asset exchanges; Multi-signatures for security & escrow; Subscribe to asset to query transactions.

6. **Permissioned blockchain:** Validation by consensus, not proof of work.

7. **Full asset lifecycle**: Issuance, transfer, exchange, escrow, reissuance, redemption, destruction.

8. **General storage and search:** 64 MB of data per transaction. Streams support key–value, identity, time series.

9. **Multiple deployment options:** Environment agnostic (self-hosted in data center, public or private cloud); Accessed as a service; Nodes added simply and quickly; Shared administration model; Smooth governance transitions.

10. **45+ blockchain parameters:** Block size/time, permissioning, admin consensus, mining, optional native currency.

11. **Data streams:** Enable a blockchain to be used as a general-purpose append-only database, with the blockchain providing time stamping, notarization, and immutability.

Address and key format
https://www.multichain.com/developers/address-key-format

Mining and block signatures
https://www.multichain.com/developers/mining-block-signatures

Peer-to-peer node handshaking
https://www.multichain.com/developers/peer-handshaking

MultiChain data streams
https://www.multichain.com/developers/data-streams

4.4.1 Addresses

Address permissions and types

Each address can have one or more of the following 8 permissions:

1. **connect** – to connect to other nodes and see the blockchain's contents.
2. **send** – to send funds, i.e. sign inputs of transactions.
3. **receive** – to receive funds, i.e. appear in the outputs of transactions.
4. **issue** – to issue assets, i.e. sign inputs of transactions that create new native assets.
5. **create** – to create streams, i.e. sign inputs of transactions which create new streams.
6. **mine** – to create blocks, i.e. to sign the metadata of coinbase transactions.
7. **activate** – to change connect, send, and receive permissions for other users, i.e. sign transactions which change those permissions.
8. **admin** – to change all permissions for other users, including issue, mine, activate, and admin.

Addresses can be **custodial** (the private key is stored in the node) or **non-custodial** (the private key is not stored in the node.)

For details, see:

- https://www.multichain.com/developers/permissions-management/
- https://www.multichain.com/developers/json-rpc-api/

Creating a custodial address

getnewaddress returns a new address whose private key is added to the wallet. This is a custodial address.

```
{
  "method":"getnewaddress",
  "params":[],
  "id":"13317418-1619248615",
  "chain_name":"hyfiblockchain-test”
}
```

The output is an address e.g.
1Ty73ZtDSpF955Bbcmet1PFMGATWGW9fbxznjg

For details, see:

- https://www.multichain.com/developers/json-rpc-api/

Creating a non-custodial address

createkeypairs generates one or more public / private key pairs, which are not stored in the wallet or drawn from the node's key pool, ready for external key management. These are non-custodial addresses.

```
{
  "method":"createkeypairs",
  "params":[2],"id":"40190005-1619248819",
  "chain_name":"hyfiblockchain-test"
}
```

For each key pair, the address, public key (as embedded in transaction inputs) and private key (used for signatures) is provided.


```
[
    {
        "address" : "1MKGLxa2s3STb1A6qb1u2PdKKrJR3FFzBdQPLa",
        "pubkey" :
"030685964850a9b99f78b2877d1029a10fa22e278ba38f5cd498b25f85c88
91d53",
        "privkey" :
"V5m9ChGZkbr3Cas3VcEyi7PKSX8zZk6pBe2WveKjnPFDCq3NXBKtuzpv"
    },
    {
        "address" : "1S3sCn2V41KGPuYabKrpiw2wdXVxspciBmN84P",
        "pubkey" :
"0324643250f011901d00b9eee33687fcbb9ba4d02df7a4ff5d46770b30c34e
01c0",
        "privkey" :
"VCiVGNp5VD2TjTcpTEUV3zQESbXEPsAq6m2NzkFN8G77vUQjakG5RK
my"
    }
]
```


For details, see:

- https://www.multichain.com/developers/json-rpc-api/
- https://www.multichain.com/developers/external-key-management/

Creating a multi-sig address

Addmultisigaddress creates a pay-to-scripthash (P2SH) multisig address and adds it to the wallet.

Funds sent to this address can only be spent by transactions signed by nrequired of the specified keys. Each key can be a full public key, or an address if the corresponding key is in the node's wallet.

addmultisigaddress nRequired '["key 1","key 2", "key 3", ...]'

{
  "method":"addmultisigaddress",
  "params":[2,
["164dE7AUDMToVan3SwqTZQj3YQasWsC8Kpabhp","1KaXyT9zVCtzjf2Fn1xjD7Mxgpkgg1fSsMDajv","1CJ4i9mvKC4NUCZqTdZEgFTwB2GzD5v6hnuu2Z"]],
  "id":"55742104-1619257291",
  "chain_name":"hyfiblockchain-test"
}

Output is the P2SH address e.g.
4Brz489FmYnruesBvGSiasFQ1PmhaqEeT6bCCu

For details, see:

- https://www.multichain.com/developers/json-rpc-api/
- https://www.multichain.com/developers/multisignature-transactions/

4.4.2 Assets

When an asset is created, the following parameters can be customized:

1. the address which is creating the asset
2. address to which the assets are to be sent on creation
3. asset name
4. whether additional units can be created
5. whether it has per-asset send and/or receive permissions
6. the smallest transact-able unit
7. optional custom-fields parameter to provide extra information

For details, see:

- https://www.multichain.com/developers/asset-reissuance
- https://www.multichain.com/developers/json-rpc-api/

HyFi Stablecoin

A HyFi Stablecoin can be issued using:

issuefrom fromAddress toAddress name|params qty (units=1) (customFields)

Example:

```
{
  "method":"issuefrom",
  "params":
    [
    "16DYphKzXFNmnSDiJKXxPoyWc2sgbMjz9K3JU7",
    "12N99sLLMMBiZW1cc1imrEuKxmCha5CQdqBDMu",
      {
        "name”:"Stablecoin",
         "open":true},
         50000,
         0.01,
          0,
          {
            "Type”:"Stablecoin",
             "Category”:"USD-backed",
             "Issue date":"1-May-2021",
             "Proof of Reserve”:"https://www.example.com”
           }
       ],
  "id":"28019042-1619262338",
  "chain_name":"hyfiblockchain-test”
}
```

The output is a transaction id such as:
6bb5939d6cc7a64d418802c00cf195b3a95023f23d7613e273f1e4d54eee92b4

HyFi Wrapped Token

A HyFi Wrapped Token can be issued using:

issuefrom fromAddress toAddress name|params qty (units=1) (customFields)

Example:

```
{
  "method":"issuefrom",
  "params":
    [
    "16DYphKzXFNmnSDiJKXxPoyWc2sgbMjz9K3JU7",
    "12N99sLLMMBiZW1cc1imrEuKxmCha5CQdqBDMu",
      {
        "name":"wGold",
         "open":false},
         50000,
         0.01,
          0,
          {
            "Type":"Wrapped Token",
             "Category":"Commodity-backed",
             "Subcategory":"Gold-backed",
             "Issue date":"1-May-2021",
             "Proof of Reserve”:"https://www.example.com"
           }
       ],
  "id":"28019042-1619262338",
  "chain_name":"hyfiblockchain-test”
}
```

The output is a transaction id such as:
6bb5939d6cc7a64d418802c00cf195b3a95023f23d7613e273f1e4d54eee92b4

HyFi NFT

A HyFi NFT can be issued using:

issuefrom fromAddress toAddress name|params qty (units=1) (customFields)

Example:

```
{
  "method":"issuefrom",
  "params":
    [
    "16DYphKzXFNmnSDiJKXxPoyWc2sgbMjz9K3JU7",
    "12N99sLLMMBiZW1cc1imrEuKxmCha5CQdqBDMu",
      {
        "name”:"NFT",
         "open":false},
         1,
         1,
          0,
          {
            "Type":"Copyright NFT",
             "Category”:"License to translate into Spanish",
             "Subcategory":"Gold-backed",
             "Issue date":"1-May-2021",
             ”Metadata":"https://www.example.com",
             "License":"details",
             "Algorand":"details",
             "Cardano":"details",
             "Ethereum":"details",
              "Flow":"details",
              "Solana":"details",
              "Tron":"details",
           }
       ],
  "id":"28019042-1619262338",
  "chain_name":"hyfiblockchain-test”
}
```

The output is a transaction id such as:
6bb5939d6cc7a64d418802c00cf195b3a95023f23d7613e273f1e4d54eee92b4

HyFi Open Blockchain Token

A HyFi Open BlockchainToken can be issued using:

issuefrom fromAddress toAddress name|params qty (units=1) (customFields)

Example:

```
{
  "method":"issuefrom",
  "params":
    [
    "16DYphKzXFNmnSDiJKXxPoyWc2sgbMjz9K3JU7",
    "12N99sLLMMBiZW1cc1imrEuKxmCha5CQdqBDMu",
      {
        "name":”otoAlphaCorp",
         "open":false},
         50000,
         0.01,
          0,
          {
            "Type":”OTO",
            "Issue date":"1-May-2021",
             ”Regulatory Disclosures":https://www.example.com
           }
       ],
  "id":"28019042-1619262338",
  "chain_name":"hyfiblockchain-test”
}
```

The output is a transaction id such as:
6bb5939d6cc7a64d418802c00cf195b3a95023f23d7613e273f1e4d54eee92b4

4.4.3 Transactions

Sending one-way payments

One-way payments can be sent using

sendassetfrom fromAddress toAddress asset quantity

Example

```
{
  "method":"sendassetfrom",
  "params":
   [
    "16DYphKzXFNmnSDiJKXxPoyWc2sgbMjz9K3JU7",
    "12N99sLLMMBiZW1cc1imrEuKxmCha5CQdqBDMu",
    "USD",
    40
    ],
   "id":"29302897-1619276127",
   "chain_name":"hyfiblockchain-test”
}
```

Each successful transaction generates a transaction id like:
0489a63071432ac4212a59d01b12b4b51b9a1ca5d69bd71d84343e03078b4776

For details, see:

- https://www.multichain.com/developers/json-rpc-api

Atomic exchange transactions

Atomic exchange transactions are used to safely swap assets between counterparties.

Any MultiChain transaction can have multiple inputs and outputs, and each one can relate to a different address on the blockchain. This enables a single transaction to perform an asset exchange between two or more parties, for example sending a dollar-denominated asset from Alice to Bob, while simultaneously sending a Euro-denominated asset from Bob to Alice.

Because the exchange takes place in a single transaction, it comes with a guarantee of atomicity, meaning that all of the asset transfers take place simultaneously, or none take place at all. In the finance world, this type of transaction is termed delivery-versus-payment, or DvP for short.

For details, see:

- https://www.multichain.com/developers/json-rpc-api
- https://www.multichain.com/developers/atomic-exchange-transactions
- https://www.multichain.com/developers/raw-transactions

4.4.4 Electronic Signatures

Signing by a custodial address

This is how a message (text or hash) can be electronically signed by a custodial address:

signmessage addressOfSigner “message”


```
{
  "method":"signmessage”,
  "params”  ["16DYphKzXFNmnSDiJKXxPoyWc2sgbMjz9K3JU7","hello"],
  "id":"13249165-1619246955",
  "chain_name":"hyfiblockchain-test”
}
```


The output will be the electronic signature e.g.
H99LZGzwNkL+Sk5dqQIoih0XNeS5w65QwGr3MvbAVO7JcharU0JTAoom
DXrgd8zkRJUEP0DT2skf23BK4UqS98Q=

This is how the electronic signature can be verified:

verifymessage addressOfSigner electronicSignature “message”


```
{
  "method":"verifymessage",
  "params":
["16DYphKzXFNmnSDiJKXxPoyWc2sgbMjz9K3JU7","H99LZGzwNkL+Sk5
dqQIoih0XNeS5w65QwGr3MvbAVO7JcharU0JTAoomDXrgd8zkRJUEP0D
T2skf23BK4UqS98Q=","hello"],
  "id":"79844039-1619246990",
  "chain_name":"hyfiblockchain-test”
}
```


The output will be true or false.

Signing by a non-custodial address

This is how a message (text or hash) can be electronically signed by a non-custodial address:

Signmessage privateKeyOfSigner “message”


```
{
  "method":"signmessage",
  "params":
["V5U3kJP4trQ27C2MV6iS52ei8PnoryKfoyBnfafQoAkF73CUvr286nYp","he
llo"],
  "id":"69331440-1619247251",
  "chain_name":"hyfiblockchain-test”
}
```


The output will be the electronic signature e.g.
H8psyHZsl9lv5ClRjx5UjpXeVPuEyJl3Zdx4F/
Vwo8FuRWECMm1CsLnw3wReGRJv5DLBI/dGCy2+ypYJewI8xEc=

This is how the electronic signature can be verified:

verifymessage addressOfSigner electronicSignature “message”


```
{
  "method":"verifymessage",
  "params":
["18TbbvRBwyXswXHyNwSStunFm8qCDx6ouaECFZ","H8psyHZsl9lv5ClRj
x5UjpXeVPuEyJl3Zdx4F/Vwo8FuRWECMm1CsLnw3wReGRJv5DLBI/
dGCy2+ypYJewI8xEc=","hello"],
  "id":"35939276-1619248249",
  "chain_name":"hyfiblockchain-test”
}
```


The output will be true or false.

5. The team

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https://www.linkedin.com/company/wrapped-asset-project/

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