

Whitepaper

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Document metadata

Revision history

Release	Author	Contribution	Date	Notes
v1.0	Llew Morkel llew@Fraxeum.org	Ernst Naude, Avi Tenzer, Others	22 July 2019	Initial release
v1.1	Llew Morkel	Pieter Lategan	13 August 2019	Native currency name changed.
v1.2	Llew Morkel	-	7 October 2019	Added Fraxeum Coin transaction flow.

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Disclaimer

1. Fraxeum is a platform that entrepreneurs and corporate companies use to create, manage and run financial products. It is up to each of our Clients to ensure that they are adequately licensed to operate and market financial services in their respective jurisdictions.

2. The Fraxeum platform is in BETA mode. Although best efforts are made to secure data, using the platform is completely at your own risk. WARNING: Loss may occur. Neither Fraxeum Holdings, nor the operating company, its shareholders, directors, management, employees, blockchain administrators or mining node owners can be held responsible or liable for damages incurred.

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Introduction

Fraxeum is a financial technology (Fintech) rapid innovation launch pad. The system consists of a permissioned blockchain and a wide range of pre-built components that developers, entrepreneurs and corporates can use for rapid prototyping, cost efficient MVP development and deploying effective production systems.

Financial technology companies are driving Fintech innovation across the globe. The PWC global Fintech report 2017 highlights the rapid expansion of Fintech, and banks are taking note:

- 82% of banks around the world expect to increase Fintech partnerships over the next five years.
- 80% of banks believe that their business is threatened by Fintech products.
- 77% expect to adopt blockchain as part of their production environment by 2020.

Slow, bloated business processes frustrate modern consumers that demand instant gratification. Technologies such as the Internet and email have been at the forefront of the InfoTech boom, but it also made consumers aware that they live in a globally connected world. Juristic borders have become virtual as consumers transact between continents buying movies from Google Play or merchandise from Alibaba. We believe that banking will become borderless too.

Fintech innovation is driving this next big wave of change by:

1. **Implementing crypto-based ledger systems** (blockchain) - allowing trustless transactions to flow across borders.
2. **Guiding Fintech developers in compliance** - stipulating regulatory requirements for each target jurisdiction and enforcing the same through community validation and verification before a system is granted permission to launch.
3. **Reducing time and cost of innovation** - offering plug and play building blocks like user management, integrated payment systems, marketing systems, mobile app source code, financial management and financial management.

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Fraxeum is the fastest, most cost efficient way to get a financial services idea created and deployed legitimately for the global market.

- Llew Morkel, Founder Fraxeum Foundation.

Design principles

1. **Compliance first:** The Fraxeum platform strives to both comply, as well as guide projects to comply, with global juristic regulatory frameworks and laws.

2. **Technology abstraction:** In an effort to promote consumer adoption and reduce the learning curve, the technology layer has been made transparent to the consumer. Consumers see local fiat currency when they deposit funds, shares when they invest and local fiat currency when they receive profits and distributions.

3. **Permissioned blockchain:** Fraxeum implements a permissioned blockchain that significantly increases both data security and transaction speed.

4. **Client silo's:** Each Fraxeum Client implements the latest instance of the Fraxeum Core hosted on a dedicated VM. Each Client has control over their own hardware scaling, bandwidth etc. Fraxeum controls the Fraxeum Core software.

5. **Client owns the customer:** Client's customer data is stored in a MySQL database inside the Client's silo with full GDPR, CCPA compliance.

6. **Transactional data is public:** Transactional data is recorded on the blockchain. Each transaction is encrypted to protect sender/receiver's identity. Anyone can connect to the blockchain - but not everyone can mine, send and receive data.

7. **Separation of power:** Critical blockchain functions like creation of assets, adding data to the blockchain and making changes to the core source code has been separated into logical groups. Mission critical functions are managed by the system admin nodes with 80% of node admins having to vote to approve these tasks.

8. **Internal asset tokenization**: Global currencies are mirrored by unique crypto assets on the platform.

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Project status

BETA TESTING

Since July 2019

Fraxeum is a fully developed, functional system with four Clients actively developing their Fintech products at the time of writing.

Area	Status	Date
Development	Phase 1 complete.	June 2019
Testing	BETA Commence 1 July	On-going

Fraxeum Roadmap

Milestone	Target date	Notes
BETA Testing Start	1 July 2019	On-Going
Blockchain TESTNET live (BETA)	9 July 2019	Complete
Blockchain MAINNET live (BETA)	25 July 2019	On-track
Fraxeum Mint (200 million)	31 July	On-track
Support Team Signup	1 August	On-track
Product launch (Azuza) - South Africa	Fourth quarter 2019	On-track
Product launch (Apisa) - South Africa	Fourth quarter 2019	On-track
Product launch (Yomio) - South Africa	First quarter 2020	On-track
Product launch (SmartShares)	-	Pending Client

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Fraxeum system overview

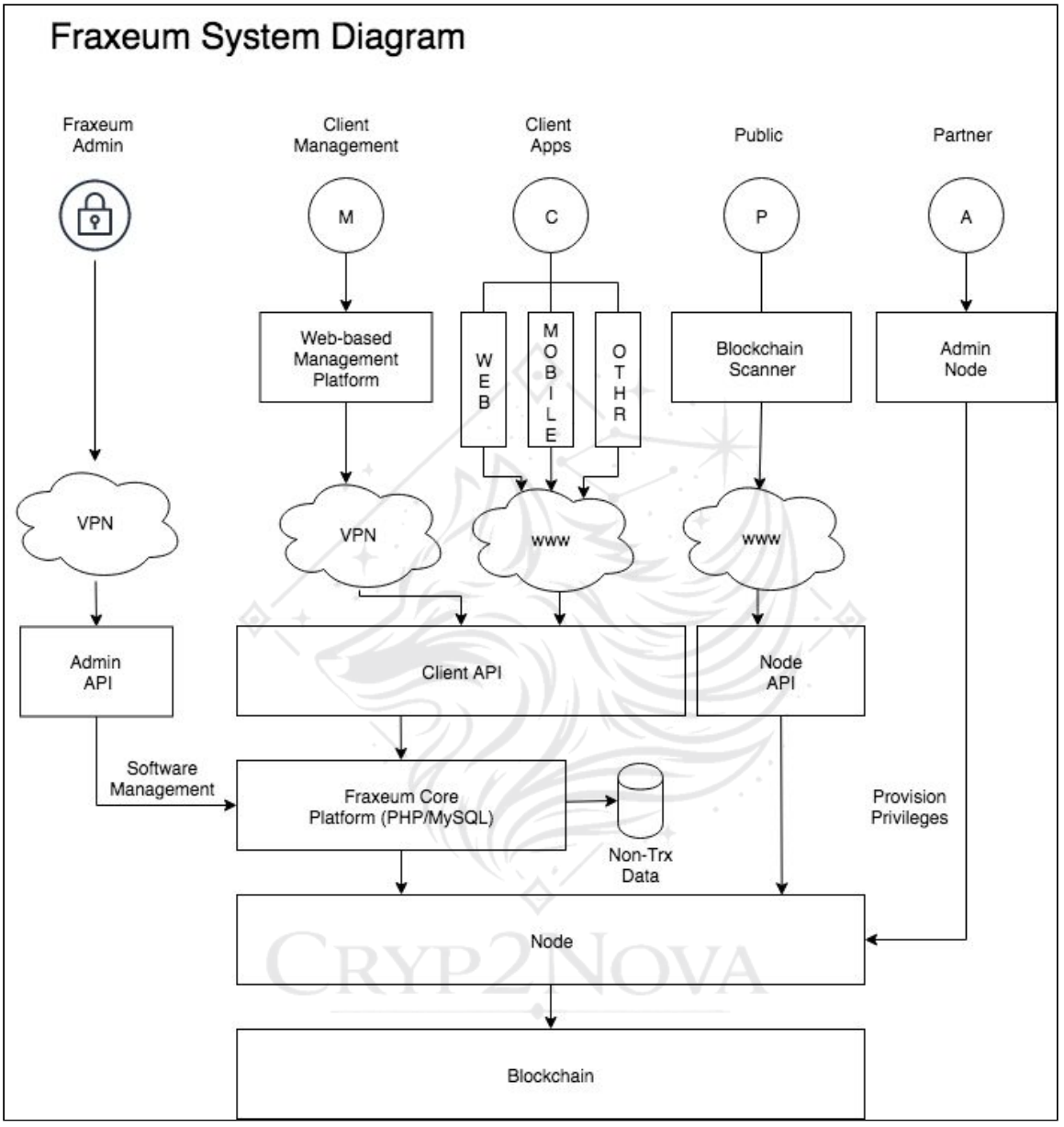


Fig 1: Architecture diagram - Fraxeum Platform

Clients: A Client on our platform is a business, entrepreneur or developer that implements the Fraxeum API. Each Client's system is set up as a separate VM in the Amazon cloud, with load balancing, database replication and backups and active network security. Each Client's system runs a full copy of the Fraxeum Core, API and a node. Client configuration is discussed in detail in the following subsections.

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Blockchain: The system implements an instance of the Multichain private blockchain. The blockchain is configured to be publicly visible while anyone can mine the blockchain as long as that individual is willing to have their identity verified by a third party personal identity verification service such as CIVIC or Telegram. The Fraxeum blockchain is discussed in more detail later in the following subsections.

Node: Nodes pass the transaction data to other nodes where they are gathered and added to a block. Client nodes don't mine they simply send and receive transaction data. Each Client node has at least two pre-configured wallets: one for assets in escrow state and one for available balances.

Fraxeum Core: The Fraxeum Core consists of PHP source code that connects to a MySQL database. Each Client's Fraxeum Core implementation runs on a dedicated server. The server provides access to the Client API.

Non-Transactional Client Database: A MySQL database is used to store all non-transactional data. The data is encrypted and is owned by the Client.

Admin API: The Fraxeum team controls the Fraxeum Core software which includes deployment, configuration, maintenance and support, backups and upgrades. Clients are not permitted to access or manage the core system.

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Client API: The Fraxeum Core exposes an API of more than 100 end-points. Fraxeum issues developers with access tokens which controls API access. Clients are solely responsible for the security of their application server, their VM, data and the network layer in between.

Node API: Connect only nodes are implemented to provide a public view of the blockchain. In time to come Fraxeum will launch a node scanner that provides a visual user interface to the blockchain.

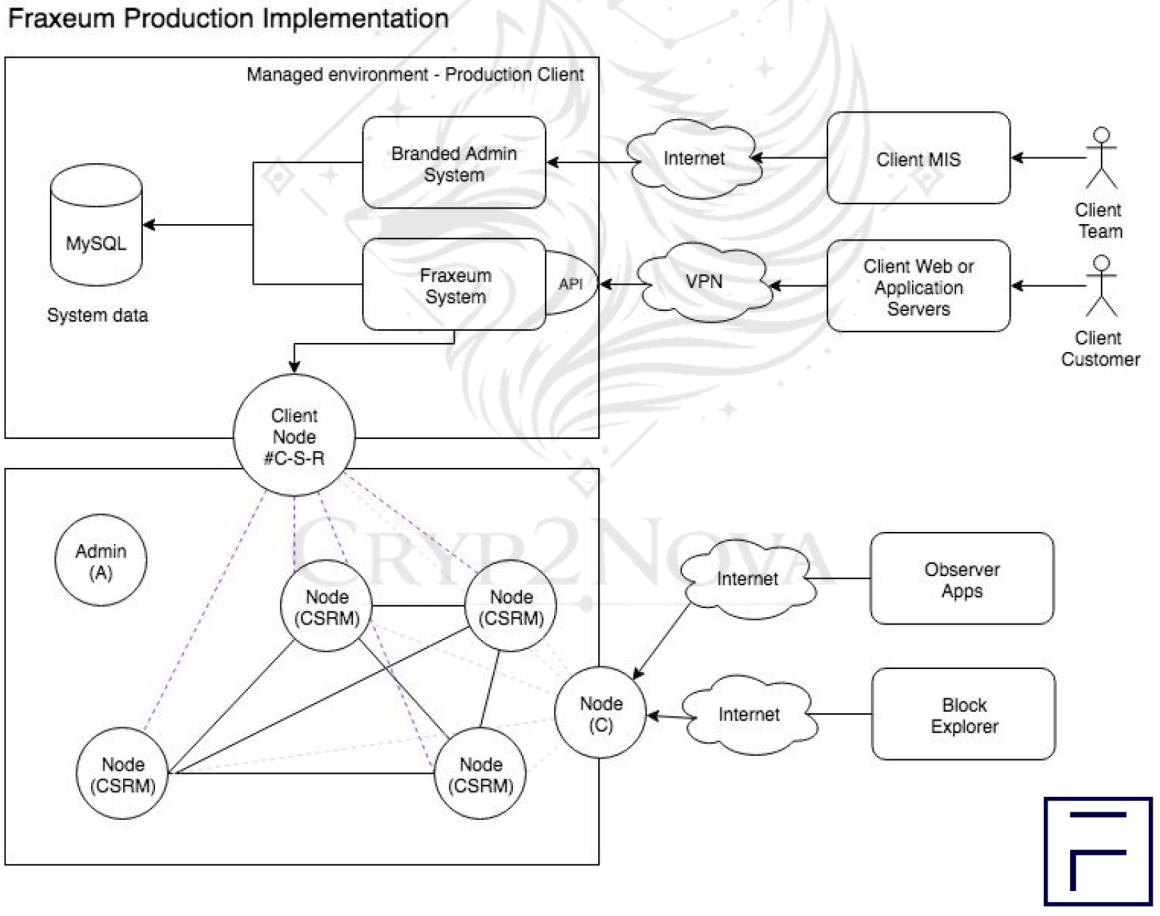
Admin Node: Admin nodes are run by selected, yet independent, blockchain managers. The identity of each node administrator has been verified by an independent identity

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verification platform. Admins are rewarded with a share of transaction fees for managing the blockchain.

Typical Client implementation

Each (production) Client is provisioned in a unique silo (Principle: *Client Silo's*), a ring-fenced environment hosted in the AWS cloud using a dedicated VM with at least one dedicated IP address. The silo is set up and managed by the Fraxeum Core team and includes a full copy of the Fraxeum Core. User data is encrypted and stored in a MySQL database. Clients have sole access to their database providing the Fraxeum system with read/write permissions (Principle: *Client owns the customer*). The production platform connects to the Fraxeum Blockchain via a dedicated Client Node.



The Client is responsible for:

- Their own product's hosting outside of the Silo.
- Availability management - load planning and management etc.

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- Implementation, management and expenses related to security, hosting support, bandwidth, processing power, storage etc.
- VPN connections.
- GDPR and other consumer protection related regulations with respect to storing Client data in the MySQL database.

The Fraxeum Blockchain

The principle of *separation of powers* protects the integrity of the Fraxeum blockchain and its data.

In the Fraxeum blockchain this principle is implemented with node permissions. Each node that connects to the network is assigned a specific role. Each role has been assigned certain permissions, some of which are common between the nodes, like “connect”, and others are unique to that role - like “mining”.

Basic roles:

- Public nodes are allowed to see the chain but they cannot send, receive or add data to the chain.
- Client nodes (apps that manage user wallets) can create transactions (ie. send and receive funds and assets) but they cannot verify transactions.
- Miner nodes verify transactions and create blocks but they cannot create assets or manage role permissions.
- Admin nodes are fully verified nodes that work as a team, creating and approving the creation of assets, miners, upgrades to the blockchain - but they don’t mine.

Consensus Mechanism

The Fraxeum blockchain implements *distributed consensus between identified block validators* to achieve consensus. The Fraxeum whitepaper proposes that this consensus mechanism be called “Proof of Identity”.

Proof of Work (PoW) vs Proof of Identity (PoID)

A PoW blockchain has no knowledge of who the miners are that contribute blocks to the chain. It relies on computational difficulty to make it too expensive (in both time and money)

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to “override” confirmed blocks. Because of this, PoW has proven to be an effective, but resource intensive means of protecting a public blockchain against rogue activity.

A PoID blockchain knows the identity[1] of each miner as well as that of the nodes he or she operates, then it is up to the implementer of the chain to establish trust and integrity between identified block validators. However, once trust is ensured, achieving consensus requires little more than peer validation. Computational difficulty is no longer required resulting in significant gains, such as:

- Predictable and even configurable block creation times;
- Ultra low operating cost[2];
- Zero startup cost[3];
- Highest degree of transaction data security.

Establishing trust and integrity amongst block validators

The Fraxeum platform uses the following strategies to ensure MAINNET integrity:

1. **IP Whitelisting:** Participating nodes’ IP-addresses are whitelisted on the platform firewall and are recorded in the blockchain. When a node is removed, the firewall blocks that IP address and the blockchain removes this node’s permissions.

2. **Active node count limits:** The Fraxeum platform limits the number of nodes that any one miner can operate under a verified identity. A miner can run up to ten nodes. Miners will earn the right to operate additional nodes for achieving availability targets.

3. **Next block queueing:** Nodes mine blocks in round-robin fashion. The blockchain source code ensures that each node can only mine the next block after every other active node has had an opportunity to validate a block. In the most general terms the next minable block for a specific miner can be calculated with this formula:

```
n = Block height of last block mined by this node + totalActiveNodes + 1
```

[1] See mining requirements section for details on how we use miner personal information.
[2] See mining requirements section for details on operating cost.
[3] See mining requirements section for details on startup cost.

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Example

Parameters:

- Node A mined the 99th block.
- Total active nodes: 150

Node A can validate a block again when the blockheight reaches

```
99 + 150 + 1 = 250
```

If a node tries to mine a block before the “next minable block”, that block will be rejected as invalid.

4. **Node permissions:** Miner nodes can only validate blocks. They cannot add more nodes, modify node permissions or change any data in the chain.

5. **Administrator change consensus:** Node administrators vote to support additions, changes, updates and permissions on the Blockchain. Each vote is captured as a no fee transaction on the chain. A change is implemented when the target level of consensus is reached for the particular change type between all active miners.

   Example:

Change type	**Impact**	**Risk level**	**Consensus required** (% active miners to approve)
Add admin	Full administrative privileges are extended to a new administrator node.	HIGH	80%
Upgrade source code version	Blockchain source code is upgraded forcing all nodes to upgrade.	HIGH	80%
Create new asset	Add a new token to the	CREATE	80%

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	Blockchain.		
Add new mining node	Provides privileges to a node to validate blocks.	MEDIUM	50%
Activate node	Adds basic connect, send, receive privileges to a node.	LOW	10%

6. **Incentivisation:** Network participants are incentivised to act in the best interest of the chain through share of revenue.

Fraxeum network types

We operate and maintain two live versions of our blockchain, namely:

1. **TESTNET:** “FraxTest” is the test blockchain. Every miner that runs one or more node on the MAINNET must maintain at least one node in the TESTNET. The TESTNET is strictly for development purposes and can be adjusted, relaunched and forked at any time - with fair warning.

2. **MAINNET:** Fraxeum is the production blockchain. Permission to deploy a product on the MAINNET is subject to community approval in terms of legal and regulatory compliance. The MAINNET will be supported by various corporate partner nodes to ensure longevity and sustainability.

Mining the Fraxeum Blockchain

Current Blockchain parameters:

- Block size: ~2MB (2097152 bytes)
- Block mining target: 180 seconds
- Mining difficulty: 0
- Number of miner nodes: ~ 150 (soft limit)

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Mining deployment speed

It takes on average **one minute** to deploy a Fraxeum node using the Fraxeum node install script located here:

```
GITHUB: Fraxeum/MiningNode Project - Location:
fraxeum-node-v01/node-linux/linux_startup_script.sh
```

Mining participant requirements

Role	**Requirement**	**Reward**
Admin	• Personal Identity Verification - CIVIC or Telegram. • 1x Node with dedicated IP address. • Valid email address to receive network communication. • Complete at least 80% of work orders[4] that are passed to admins.	Shares in 10% of platform profits divided equally between all active miners.
Miner	• Personal Identity Verification - CIVIC or Telegram. • Dedicated IP address for each active node. • 1x TestNode, 1x ProdNode	Miners earn 50% of all Fraxeum transaction fees (gas) in the block the miner validated[5].

[4] Work orders come in a single batch, once a day, and require the admin to copy and paste his vote into the Multichain-CLI to approve/reject work like asset creation, apply miner permissions etc.
[5] See miner rewards section for details about how miner rewards are calculated.

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Max validator nodes per role	Nodes
Admin	0
Miner	5 (+5 for every consecutive year mined) Plus availability goal bonuses.

Minimum system requirement

Both Admin and Miner nodes run the same software.

Operating System	Specification
Linux 64-bit	Supports Ubuntu 12.04+, CentOS 6.2+, Debian 7+, Fedora 15+, RHEL 6.2+.
Windows: 64-bit[6]	Supports Windows 7, 8, 10, Server 2008 or later.
Mac: 64-bit[7]	Supports OS X 10.11 or later.

Hardware	Specification
RAM	1 GB
Storage	2 GB (Will increase with time)

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Indicative Mining Cost

Virtual Hosting Aggregator	Specification	Monthly cost (hourly cost)
Vultr.com	55GB SSD Storage, 1 CPU, 2GB RAM, 2TB Bandwidth	$10 ($0.015)

[6] Not currently available.
[7] Not currently available.

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DigitalOcean	50GB SSD Storage, 1 CPU, 2GB RAM, 2TB Bandwidth	
Kamatera	50GB SSD Storage, 1 CPU, 2GB RAM, 2TB Bandwidth	$19 ($0.026)

Note: Quote based on 13 July 2019 pricing with 64-bit Ubuntu 18.04 operating system.

Fraxeum Mining Rewards

Block validation is rewarded with the Fraxeum's native coin, Fraxeum. The reward amount is a factor of all fee carrying transactions in a valid block. Not all transactions attract platform fees, for example a transaction that sets miner permissions has zero fees.

Blockchain transaction fees:

Fee type	**Payee**	**Beneficiary**	**Indicative value**
Network fees (Gas)	Clients Consumers	Network participants	1% of transaction value with a maximum of US$5 per single line item[8].

Transaction fee distribution:

1. Fraxeum: 40%
2. Admins: 10%
3. Miner: 50%

Example: Hypothetical reward calculations

The following figures are for indicative purposes only to show how much a miner could hypothetically earn mining a single block. It is important to understand that transaction volumes will take time to reach levels that will sustain consistent block rewards.

[8] Network fee structure and value may change in the future.

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Scenario 1: Low total transaction value example

Assumed a total value of $7 per transaction. With Fintech apps transaction values can vary from nuaght - in free banking apps to multiples of thousands of dollars in share trading apps.

Number of fee attracting transactions in a mined block	**Total value of block transactions**	**Total Fees Paid** (All transactions)	**Fraxeum** (40%)	**Admins** (10%)	**Miner** (50%)
0	0	0	0	0	0
1	$7	$0.07	$0.028	$0.007	$0.035
10	$70	$0.70	$0.28	$0.07	$0.35
100	$700	$7	$2.80	$0.70	$3.50
1000	$7,000	$70	$28.00	$7.00	$35.00
2500 (Max)	$17,500	$175	$70.00	$17.50	$87.50

Scenario 2: Medium total transaction value example

Assumed a total value of $70 per transaction. With Fintech apps transaction values can vary from zero - in free banking apps to multiples of thousands of dollars in share trading apps.

Number of fee attracting transactions in a mined block	**Total value of block transactions**	**Total Fees Paid** (All transactions)	**Fraxeum** (40%)	**Admins** (10%)	**Miner** (50%)
0	0	0	0	0	0
1	$70	$0.70	$0.28	$0.07	$0.35
10	$700	$7	$2.80	$0.70	$3.50
100	$7,000	$70	$28.00	$7.00	$35.00
1000	$70,000	$700	$280.00	$70.00	$350.00

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2500 (Max)	$175,000	$1750	$700.00	$170.50	$870.50

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The Fraxeum Platform

The purpose of the Fraxeum platform is to provide corporations, entrepreneurs, and developers with all the building blocks they need to develop, deploy and operate phenomenal Fintech apps.

Benefits of using the Fraxeum Platform:

1. **Ready made modules**
   Most of the core modules that a Fintech application needs have been built and is being maintained by the Fraxeum development team - saving development time, time to MPV and cost of developing these aspects.

2. **Includes advanced financial concepts**
   Projects have the ability to implement shares trading, fractional ownership and over the counter trading. Fraxeum's cryptographic assets allows users to safely buy, send, receive, and spend these assets without the need for trusted intermediaries.

3. **Global relevance**
   - Innovate in your own country:
     Fraxeum platform allows developers to build products for their own jurisdiction showing their own currencies, implementing their own regulatory requirements.
   - Branch out to many more:
     The multi-jurisdictional nature of the platform makes it easy for entrepreneurs to rollout their product in foreign markets. Fraxeum provides regulatory guidance, as well as deposit, payments and withdrawals infrastructure.

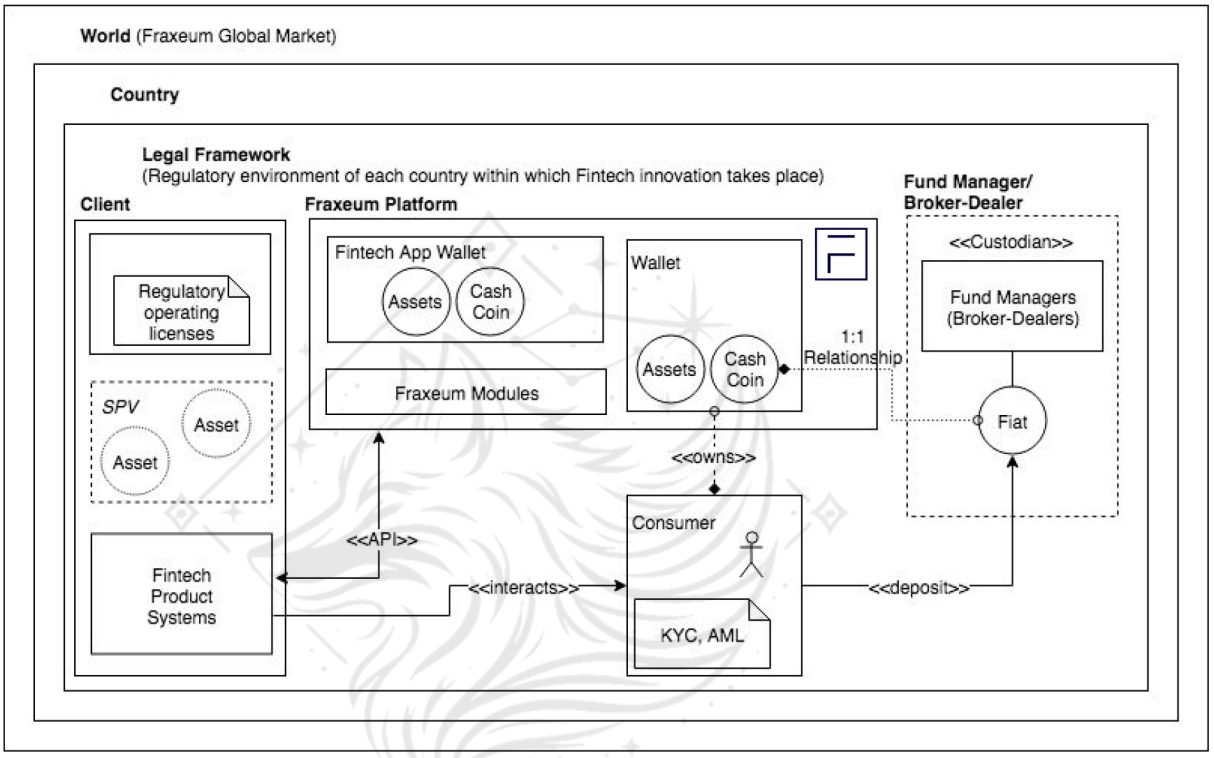
4. **Financial focussed blockchain**
   The blockchain was designed to comply with the most stringent security requirements demanded by financial institutions allowing developers to innovate on banking grade infrastructure.

5. **Free starter source code**

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Developers can start innovating using existing source code for a mobile app (ionic/Angular) and admin system (PHP) in the Fraxeum GIT repository.

Fraxeum Operating Context



Key concepts

1. **Regulatory framework**

   A Fintech product operates in at least one country[9]. Fraxeum guides projects in complying with the laws in each country at three levels:

   a. Financial services company compliance.
   b. Legal Structure/SPV compliance.
   c. Consumer: Consumer compliance (KYC, AML, FICA, GDPR etc).

2. **Client**

   Fraxeum's Clients are businesses, entrepreneurs and developers who drive Fintech innovation. Clients must have the required regulatory authorisation (licenses), might operate a legal entity (SPV) and operates the fintech product.

[9] Countries including their regulatory criteria are contributed by community members.

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- ***Licenses:*** Each Client is required to be authorised to trade in each territory where they want to operate their product.
- ***SPV (Legal entity):*** Depending on the type of Fintech product that the Client is creating, the Client may create/own one or more legal entities (special purpose vehicle - SPV) that holds assets. For a company share scheme, the assets may be a capital pool with a cash portion and a fixed investment portion. For a Rental Property Fintech the assets may be rental properties.
- ***Fintech product:*** The Client creates the core system that extends the Fraxeum API. The core system will include business rules, processes, user interfaces etc.

3. **Asset**

   An asset is an item of value that is held by an entity (company or consumer). The keep track of asset ownership through a built in accounting system.

   The Fraxeum platform defines two types of internal assets:

   - **CashCoin**

     CashCoins represents fiat currency on the platform. One CashCoin is created for each world currency. Consumers buy CashCoin by depositing EFT, Credit Card or Crypto in their jurisdiction. The system mints CashCoin when fiat enters the system and burns CashCoin when fiat leaves the system.

   - **Asset Tokens**

     Each legal entity/SPV is represented by a unique crypto token on the system. The system uses this Asset Token to track ownership/participation etc in the financial asset.

4. **Wallet**

   The wallet is responsible for tracking transactions that are of particular interest to a user, because they involve one of its addresses, or an address it is watching, or an asset that it owns. The wallet also contains the private keys for the addresses owned by the node.

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Available wallet supports fiat deposit and withdrawal, EFT deposit and Cryptocurrency deposit Bitcoin and 1000+ altcoins supported.

The Fraxeum platform creates two addresses each wallet (by default):

- Assets available
- Assets Escrow (in/out)

5. Admin system

A web-based admin system provides administrative access to projects where users can approve deposits, process payments, view stats, create SPVs, etc.

The admin system defines various roles:

- ***Fintech operations management team roles***
  Fintech admin, Fintech manager, Fintech support, Fintech finance manager, Fintech finance assistant, Fintech reporting, general

- ***Fund manager/Broker dealer roles***
  Fund manager, funds administrator, general support.

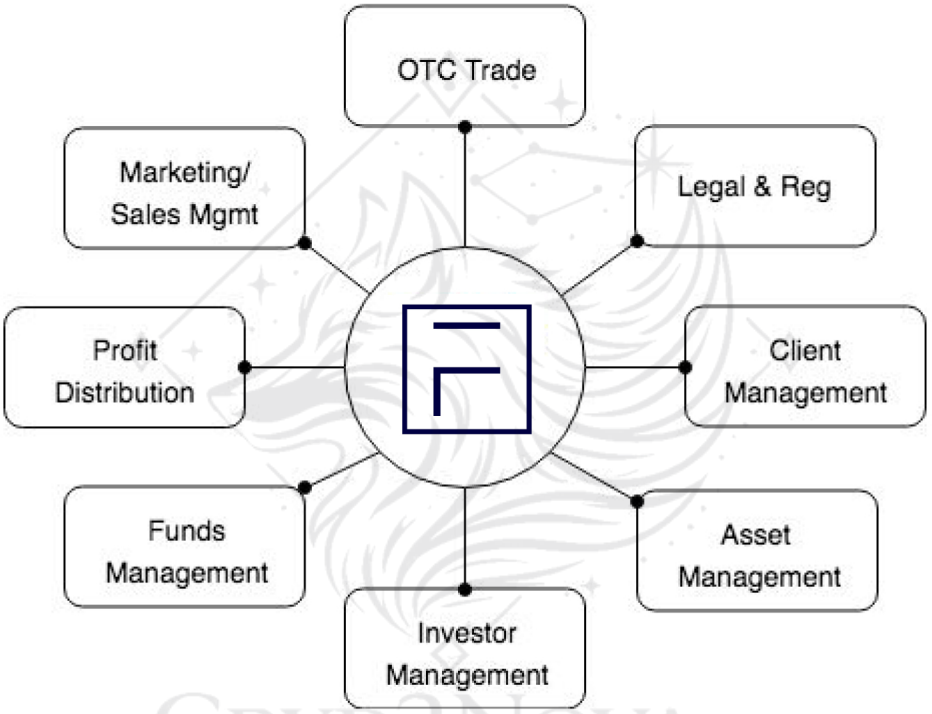
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Fraxeum modules

Fraxeum's modules are the building blocks that developers use to create their products. Modules are accessed through a set of APIs that expose the features of the function. The current version of the platform offers eight modules.

A brief, non-exhaustive, introduction of each of the modules are provided below. See API documentation for detailed features and functionality.



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Legal & regulatory

[Design principle: Compliance first] This module manages the type of authorisation that is required for a specific Fintech in a specific jurisdiction. The legal & regulatory module is managed by the Fraxeum team with community support. This module manages compliance requirements for each project and each jurisdiction.

No project can go live in a jurisdiction if compliance has not been approved by the Fraxeum community.

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Client management

This is an internal module that manages Fraxeum Clients.

Asset management

This is an internal module that manages the creation of assets on both the TESTNET and MAINNET.

Investor management

This module provides a range of consumer registration and account management tools like:

- Registration
- Account recovery (using mnemonic key words)
- KYC/AML compliance (via third party provider)
- 2FA management

Funds management

[Design principle: Separation of power] This module allows the financial management team (usually a banking team, fund managers or broker dealers) to process deposits and withdrawals.

Profit distribution

In the event that a Fintech deals with investment or any kind of payout due its members, this module manages the process flow from setup of payment criteria, verification of distribution before payment, deposit and verification of distributable funds and distribution of profit to eligible users.

Marketing/Sales management

Each product needs a signup/sales page. This module offers a marketing page engine that allows the creative team to design a template which the technical team links with data. The engine supports graphs, images, videos, text, font-colours, arrays of data etc.

The sales page includes integrated payment from the Fraxeum wallet.

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Investor support module

Integrated investor support allows Fintech firstline support teams to interact with their customers via text messaging.

OTC trade module

For projects that allow customers to transact on a direct person-to-person level (over the counter trading) the OTC trade module offers functionality to create a marketplace, post bulletins, make an offer, accept/reject offer as well escrow management of the funds to avoid potential double spend.

Coins/Tokens

[Design principle: Internal tokenization]
Fraxeum uses three cryptographic token types to operate the platform:

1. Native coin: Fraxeum
2. CashCoin Tokens (Discussed: Fraxeum Platform Key Concepts (3))
3. Asset Tokens (Discussed: Fraxeum Platform Key Concepts (3))

Fraxeum

Fraxeum is the gas that powers the Fraxeum blockchain. Blockchain miners and administrators have real expenses and in return are rewarded with Fraxeum. One *frax* is the smallest part of a Fraxeum ∴ 1 frax = 0.00000001 Fraxeum.

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Fraxeum characteristics

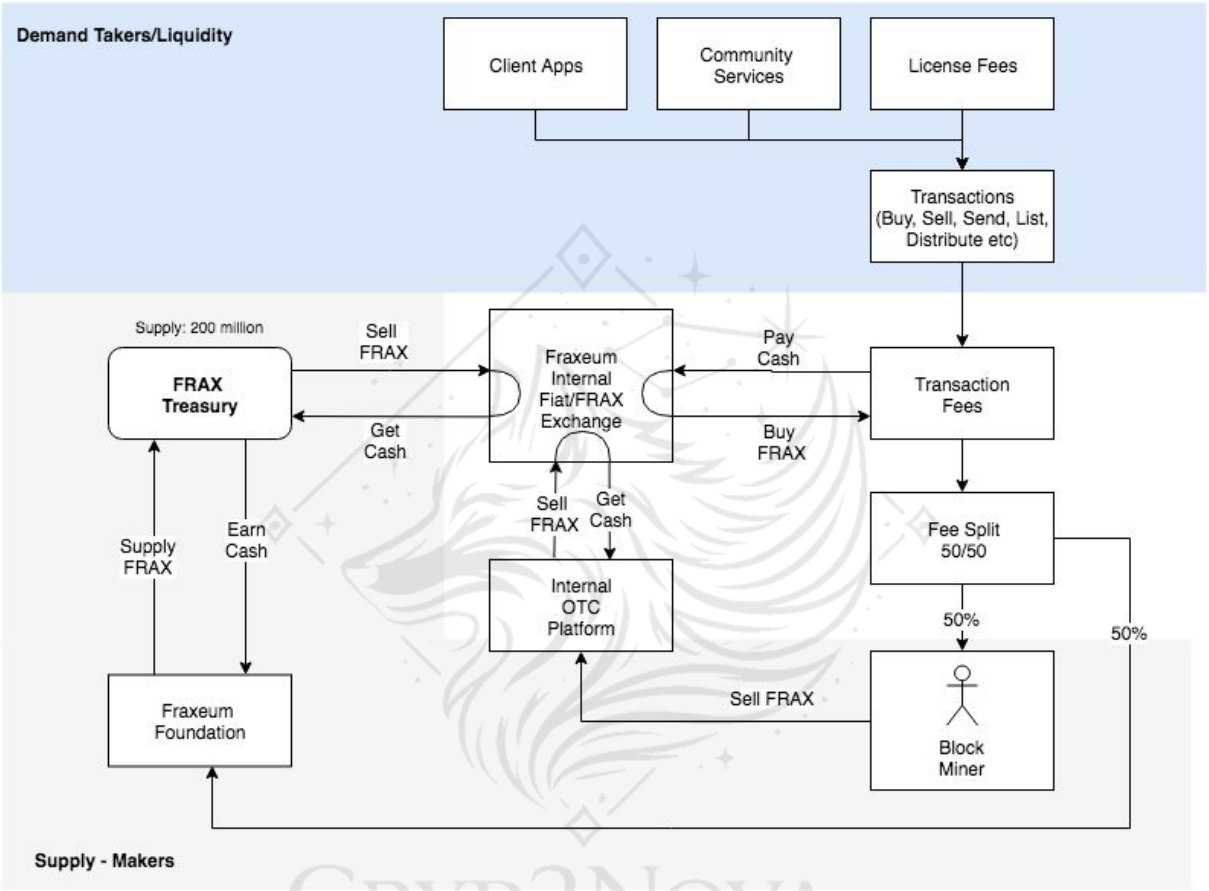
Variable	Value
Cryptographic Type	Bitcoin Blockchain compatible asset (8 Decimals), native coin.
Max Supply	200 million - Capped
Hash Algorithm	Proof of Identity
Primary Purpose	Fraxeum is used to automatically reward workers (miners, community members, investors) for work they do on behalf of the platform.
Market Making	The platform is the primary market maker. Transaction fees, production key fees and premium support fees are payable in Fraxeum.
Method of Distribution	Reward payment for work completed.
Market Place	Initially Fraxeum will only be redeemable for fiat or other cryptocurrencies on the platform's internal OTC market place where the application and other users are the makers and Fraxeum holders the takers. Fraxeum will list on Bitcoin compatible exchanges once volumes increase to acceptable levels.
Monetary Policy	More than 80% of Fraxeum is held by the foundation for purposes of rewarding workers. The foundation manages the distribution of bulk Fraxeum to protect the market.
Listing Fraxeum	Like Bitcoin, an exchange needs to run a full Fraxeum node (cloud based VM with a total operating cost of ~$30 per month operating cost) and wallet to list Fraxeum. Fraxeum blockchain supports all the native Bitcoin API functions.

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Supply and demand drivers

Clients and investors that use the platform create demand for Fraxeum with each transaction performed. A small share of a transaction is converted to Fraxeum to cover fees. Other payments such as client licenses, community support fees etc are also settled in Fraxeum.



	Fee Type	Required Currency	Conversion	Maker	Taker
1	Transaction fees, Premium support fees	frax	fiat/crypto → frax	Holder	Projects, Corporates, Users, Fraxeum
2	Liquidity	Fiat/Crypto	frax → fiat/crypto	Holder	Projects, Corporates, Users, Fraxeum

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Innovating using Fraxeum

Step 1: Create MVP

Most Clients will use Fraxeum to create a Minimum Viable Product (MVP):

- Create basic source code
- Integrate it with the Fraxeum API
- Deploy on the TESTNET.

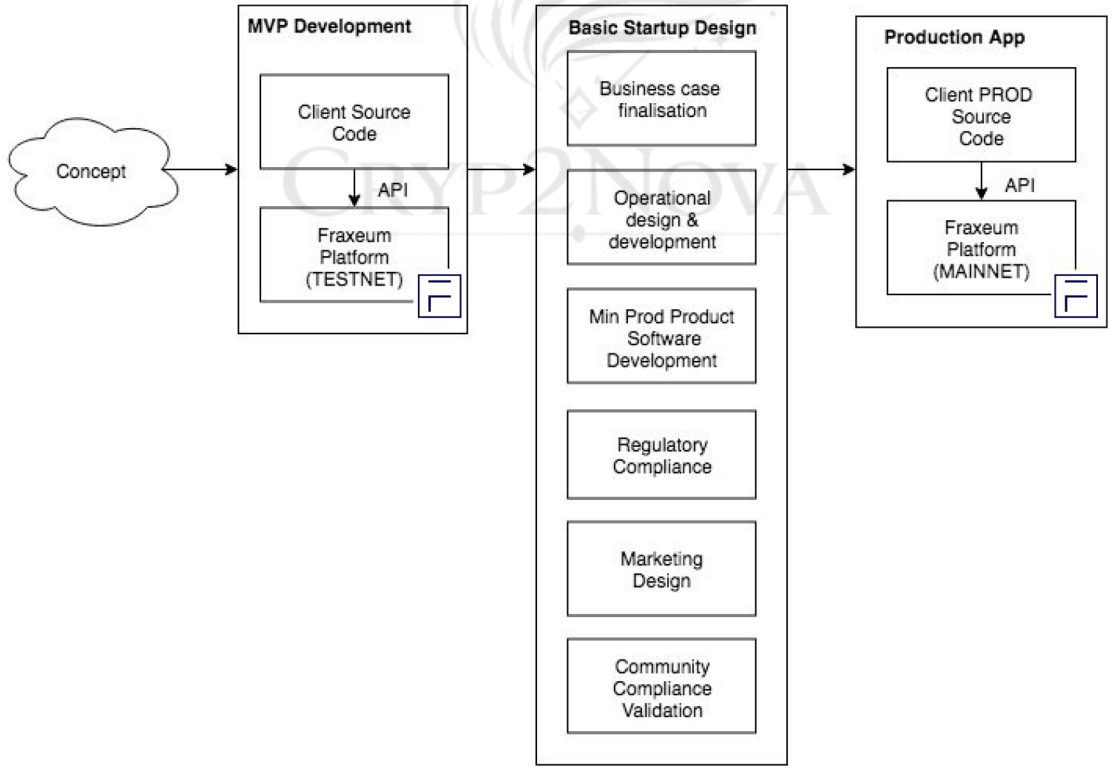
This is the first step to deploying a production system on Fraxeum and allows the Client to test a full feature app that can receive virtual deposits, create assets, buy, sell, trade etc.

Step 2: Design your business

The next step is for a Client to walk through their own startup process. This process is not managed nor mandated by the platform.

Step 3: Ensure regulatory compliance

Finally, once the Client has reached a point where the business is ready to roll out their production application, the Fraxeum community verifies compliance and approves the application to be connected to the Fraxeum MAINNET.



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Innovation flow diagram

Developer resources

API

The Fraxeum developer API contains details of more than 100 API endpoints.
URI: https://fraxeum.org/API/Fraxeum-API-Latest.pdf

Postman

The Fraxeum Postman offers developers a REST API for quick testing and development debugging.
Note: Postman runs
URI: https://fraxeum.org/Postman/Fraxeum-API-Latest.pdf

Discord: Fraxeum Developer Channel

The developer discord offers developers a community environment where they can learn, get help and support. THIS IS A TECH CHANNEL - Expect tech talk and banter and expect to be kicked out if you are abusive, lazy to read documentation or there to sell something.
Invite link: https://discord.gg/rttsuP
Invite code: rttsuP

Discord: Fraxeum Ops Support Channel

The Ops discord group is a closed group for all Fraxeum system operators, Clients and paid community support members.
Invite link: https://discord.gg/V288pz5
Invite code: V288pz5

Telegram: Fraxeum Miners

Admin, miners, developers, community members and support teams join us on Telegram for instant updates and notifications.
Invite link: https://t.me/fraxeum

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Demo implementations

We have created a fully functional demo of how every feature on the Fraxeum system works. It is available here:

- Android App: TBC
- iOS App: TBC
- Admin system: TBC

NOTE: Not deployed yet

Sample Code

GitHub: https://github.com/Fraxeum/SampleCode

NOTE: Not deployed yet

Mining auto install script

GIT: https://github.com/Fraxeum/MiningNode

File location: fraxeum-node-v01 > node-linux > linux_startup_script.sh

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The Fraxeum Community

Fraxeum is supported by the Fraxeum community and community members are rewarded for their time and effort with frax which can later be traded for Bitcoin on the Fraxeum internal marketplace.

Fraxeum platform support

The Fraxeum platform will run hackathons from time to time to develop new features and functionality. A bounty programme is permanently in place to reward community members for identifying bugs and security issues.

Bounty is rewarded on the qualitative severity rating scale (CVSS score[10]).

To claim a reward, community members must list the bug on the Fraxeum Developer Discord with the following information:

- The effect of the bug.
- The cause of the bug.
- Whether or not the person who reports the bug suggests a solution to the bug or helps in its resolution.
- The process through which the bug was discovered. Besides earning a place in our security hall of fame, every security vulnerability submitted that results in a fix on our side will receive a monetary reward.

(Source reference: https://hackerone.com/crypto)

Each bug must include a proof-of-concept that allows community members to reproduce and assess the severity of the bug. Community members will verify the bug and once verified will rate the severity level. Rewards will be paid based on the severity level matrix below.

[10] https://www.first.org/cvss/

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Severity	CVSS Score	Rewards Multiple
Critical	9.0 to 10.0	10x
High	7.0 to 8.9	5x
Medium	4.0 to 6.9	3x
Low	0.1 to 3.9	1x

(Adapted from source: https://hackerone.com/crypto)

Fraxeum Client support

Fraxeum community members will act as first line support to the Fraxeum core team. Fraxeum Clients will connect to the community via an open ticketing system from where community members can champion issues for reward.

Fraxeum community members will be able to support Clients as developers, designers, app creators, system maintenance and support, and security advisors.

Production Readiness Evaluation

Qualified community members (juristic app assessors) will be responsible for reviewing and approving new financial services apps in each jurisdiction. Clients will pay a set fee for this service which will be paid to the relevant assessor(s) in frax.

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