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I. Introduction

The focus of this whitepaper is to introduce a new enterprise named The Blockchain Brokerage (“TBB”), which aims to fulfill an immense gap in the blockchain ecosystem by satisfying a basic demand of the capital market players, and to outline the funding proposal which will be the basis of TBB’s initial capital acquisition.

The main goal of TBB is to provide a professional investment environment based on a decentralized platform. Through this platform individuals and institutional investors alike will be able to trade a wide variety of different investment vehicles. Stock market instruments, crowdfunding equities along with crypto-currencies and crypto-assets.

TBB will produce a non-permissioned public blockchain with the state-of-the-art Disparate Proof of Stake consensus, which brings speed and decentralization together, with high-end security standards and built-in legal compliance accessories. The decentralized platform powered by the blockchain will mitigate the friction factors within the blockchain ecosystem and will bring efficiency across different segments of capital markets in general.

The platform will serve not only cryptocurrency enthusiasts but it will prove to be suitable for a wide range of capital market players. The real life functionality of the platform will be able to serve the needs of a multitude of diverse investors; from venture capital funds to retail passive income investors.

The initial crowdsale offering of TBB focuses more on the ability to create value. This value creation is not a blind guess or the board's hope of an arbitrary valuation but instead will be conducted, calculated and completed by professionals. The experience, entrepreneurial vision and professionalism of the management team of TBB will most definitely raise the bar in the blockchain investments arena.

II. Market Description

Blockchain finance is an emerging industry with many distributed and distinct players. Below is an overview of the major players and how they interact.

Blockchain Innovators:

- Those who provide products and services through creating new blockchains. They are mostly made up of team of developers with an idea of a new implementation of the blockchain technology, e.g., [Bitshares](#) (\$BTS).
- Their funding scheme usually consists of an offering to the public of the network token of the blockchain they will create, a procedure generally referred as initial coin offering, or initial crowdsale offering (“ICO”).
- A blockchain innovator’s newly created “coins” are one of the two main investment vehicles. Below you will find the 2nd main investment vehicle.

Service Providers:

- Those who create products and services facilitating the use of the blockchain products, e.g., [BlockPay](#).
- The funding may or may not be through an ICO. In the case there is an ICO, the tokens generally represent an equity instrument, e.g., [Lykke](#) (\$LKK). As an alternative, projects may choose traditional methods of funding, e.g., Bitfinex.
- A service provider’s equity instruments are the other main investment vehicle in the ecosystem, in conjunction with the aforementioned network tokens.

Institutional Investors:

- Venture capital firms and angel investor networks fall under this category, e.g., Bitcoin Capital.
- They are one of the two main sources of capital in the ecosystem, the 2nd being retail investors which will be discussed in the following section.
- They may choose to participate in ICOs, if available, fund projects privately or purchase cryptocurrencies and crypto-assets in secondary markets.
- Examples of institutional investors may be dedicated blockchain investors or simply be investors who are interested in blockchain related projects.

Retail Investors:

- These are unique/distinct individuals with capital to invest in cryptocurrencies and/or crypto-assets, e.g., Ms. Jane Doe.
- They are the other main source of capital in the ecosystem.
- They may choose to participate in ICOs, or purchase cryptocurrencies and crypto-assets in secondary markets, while their participation in the direct funding of projects are negligible but should not be overlooked.
- Just as with the case of institutional investors, they may be dedicated blockchain investors, or may be investors who are also interested in blockchain related projects.

Cryptocurrency Exchanges:

- These exchanges play a pivotal role in the entire ecosystem, e.g., [OKCoin](#).
- The financial growth of the ecosystem is currently dependent on the cash inflow. Because of this reason nodal points where national currencies are exchanged for crypto-currencies and crypto-assets are necessitated. Those nodal points together are what make up said exchanges.
- When a cryptocurrency denominated investment is to be made, given the previous point, the exchanges are where the cash flow is consolidated.

Crowdfunding Platforms:

- These platforms, whether or not they facilitate fiat currency denominated investments, constitute another type of nodal points for the capital markets, e.g., [ICOO](#).
- They may work with the help of a crypto-asset whose value is tied to a fiat currency. In such a case the increase in the versatility of the platform enables the convergence of different market opportunities, thereby creating a unified liquidity while eliminating cross-market friction.

In sum, institutional and retail investors are the two major players that invest in the products developed and/or offered by blockchain innovators and service providers through cryptocurrency exchanges and/or crowdfunding platforms.

A major obstacle for investors in the current capital dynamics within the ecosystem is the lack of cross platform compatibility between funding circuits. This hurdle results in market inefficiency. The inability to freely move funds from one exchange or one crowdfunding platform to another replicates the handicaps of traditional remittance

models, and brings familiar problems to the blockchain capital markets. A possible solution to this comes from the utilization of decentralized trading platforms and cross-chain atomic swap protocols, which are not limited by national borders. However, even when the unrealized potential of such platforms is actualized, the entirety of the blockchain capital markets would still suffer from its isolation from the rest of the investment world, unless the entire capital markets are based on blockchain-compatible systems.

Market Size

As of December 2016, the market capitalization of cryptocurrencies and crypto-assets totals a sum approaching \$14bn with more than \$3bn daily volume, according to Coinmarketcap.com data. Taking into account the total market cap of all the stocks traded in New York Stock Exchange, which is \$17 trillion with a daily volume of around \$50bn, the blockchain ecosystem proves to be small in comparison at its current state. Even with the blockchain's ecosystems' current trends and growth rate potential as a whole, it is still too small to function on its own, independent of the capital markets external to it.

Although several leading institutions such as NASDAQ, Barclays and Citi are working on developing blockchain powered transaction systems, which might possibly be a basis of an integration of the prevailing financial system with the existing blockchain markets, two things must be brought to the attention. First, waiting an indeterminate period of time for a fruitful outcome of such developments cannot satisfy the current demand of the blockchain ecosystem for growth. Second, there is the risk that the privatized distributed ledger technology that the institutions mentioned above are developing may not ever yield such a fruitful outcome.

Amid the privation that the blockchain capital markets are facing and the incapacity of the currently available services to provide a feasible integration solution. The Blockchain Brokerage would like to bridge the gap bringing the traditional capital markets to the blockchain ecosystem, rather than waiting for the ecosystem to grow large enough.

III. Products and Services

TBB will operate primarily as a brokerage firm whose investment products will be available on a decentralized platform. The brokerage model of TBB and the specifications of the platform are presented here in the subsections that follow.

Straight Through Processing

With the straight through processing brokerage model, the clients' orders are directly sent to TBB's liquidity partners through partner exchanges. This is one of the immediate advantages of TBB which eliminates the need for an intermediary dealing desk. Intermediary dealing desks first buys the securities in question and then sells them to the client. There is no hidden commission in this model. With the elimination of these intermediary dealing desks the clients will be able to attain direct market access resulting in spreads that will be at the lowest possible level than previously seen in the traditional brokerage model. TBB's team has already signed contracts to access the network of the world's largest liquidity providers.

The Blockchain

TBB is in correspondence with one of the leading financial technology teams, whose clients include, but not limited to, [NASDAQ](#) and [VISA](#). Since the deal has not yet been finalized, their names will not be disclosed until an agreement is set.

The main features of the TBB's blockchain will be as follows:

- Crypto-asset issuance and decentralized asset-to-asset trading.
- Restricted assets for regulatory compliance.
- Smart contracts with JavaScript-based scripting language.
- Integrated order management and risk engine for financial applications.
- Accounts protected by 2FA and Stanford Remote Password Protocol.
- Message-level double encryption.
- Full commercially licensed open source code.

Once the platform has been launched, the following additional features will be added:

- Multisig transactions with offline validation.
- Paper wallets and offline hardware wallets.
- Collective investment schemes pre-configured in the form of decentralized autonomous organizations, built with the supported smart contract functionality.

- Integration with other decentralized platforms, e.g., [Bitshares](#), [Ardor](#), [Waves](#).

On the blockchain, there will be digital national currencies which may be acquired by fiat money deposits to TBB which in turn may be withdrawn to a designated bank account. In addition to the minimal network fee payable in each transaction on the blockchain in order to prevent the network from spamming, there will be special transactions involving a fee payable in those currencies, e.g., the fee payable upon a successful stock share trade execution.

Securities That Will be Available for Trading:

- Access to the US, European, Asian and Australian markets.
- More than 10 thousand equities from 22 stock exchanges.
- More than 3 thousand fixed income instruments.
- More than 200 investment funds.
- All orders are made through the blockchain-integrated FIX 4.4 protocol.

Crowdfunding

- Not a do-it-yourself crowdfunding platform but one which is based on registered securities.
- For each crowdfunding campaign, a securitization vehicle will be formed and utilized in accordance with the relevant regulatory regimes.
- Informal crowdfunding attempts are also possible in order to collect funds from friends and family, without the assistance of TBB.

IV. Use Cases

TBB is first and foremost an investment platform. Unlike customary investment platforms the TBB platform will enable users to:

- Trade stock shares, investment funds, and fixed-income instruments
- Trade cryptocurrencies and crypto-assets
- Create or join crowdfunding campaigns, and trade their shares
- Make fund transfers and payments

Since all those may work with fiat currency tokens, traditional market operators will be able to see the benefits of trading on the TBB platform, incorporating their liquidity with the blockchain capital markets.

All of the aforementioned instruments will be accessible within one and the same platform. Which in turn means that profitable opportunities across separate markets will be as efficient as possible. Liquidating a stock market position in order to join an ICO will be a matter of seconds with competitive fees.

Since TBB will also be authorized and regulated in a way to allow the issuing of electronic money. The issued digital national currencies will also be usable in payments. Investors liquidating their positions in order to buy goods and services traditionally enter into a cumbersome process of withdrawing collateral from their brokerage firm. With TBB, on the other hand, the money will instantly be transferable to third parties within the platform after a position is liquidated.

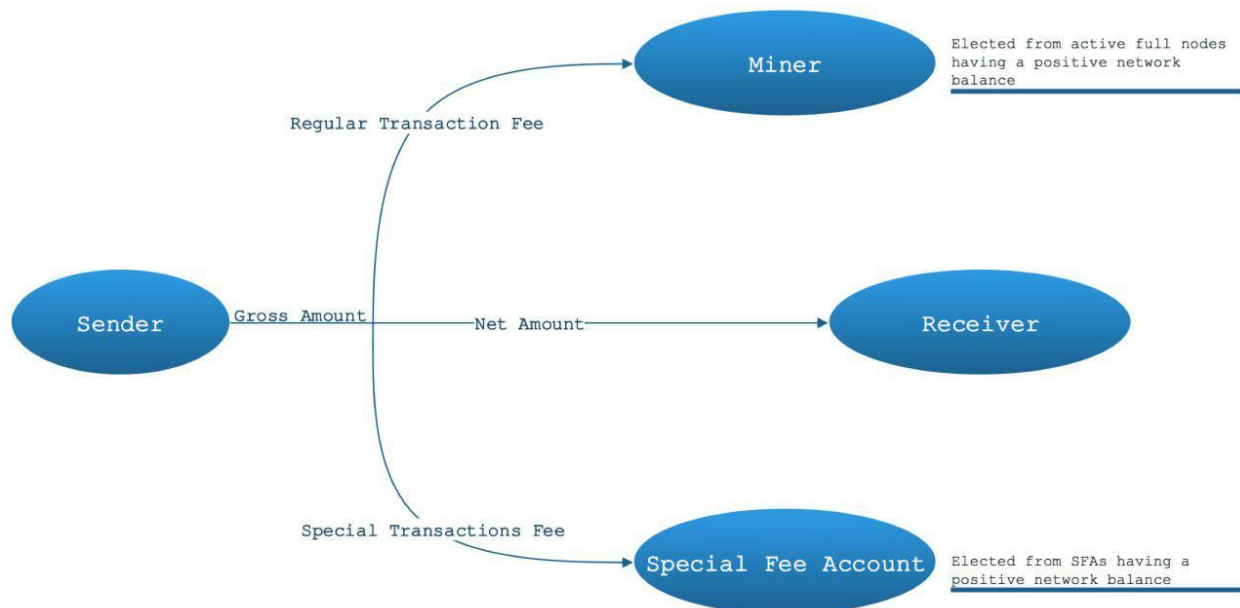
TBB's solutions encompass both buy and sell sides. Meaning, the platform will be beneficial for fundraisers as much as it will be for investors. Entrepreneurial visionaries will not only be supported externally by providing the technological infrastructure for them to create tokens and raise funds, but also there will be professional legal and managerial consultancy to facilitate funding and growth of projects.

V. How It Works

The consensus and reward model of TBB's blockchain is called Disparate Proof of Stake ("D-POS").

D-POS

Designed by TBB, D-POS offers a unique reward scheme, which brings speed and fair fee distribution together. To explain, the special transactions will be validated by the Special Audit Nodes ("SAN") authorized by TBB to assure the seamless and swift workflow of the execution processes. However, it will not be those SAN that will update the blockchain status and receive the associated block reward. In other words, the function of the SAN is to provide a higher level of security, whereas their operations will not be rewarded by network fees. On the other hand, there will be special fee accounts ("SFA") which will be eligible for an election to receive the special fee for each blockchain entry, i.e. block.



As shown in the illustration above, there are two types of transaction fees. Thus, in each block, two different block rewards will be credited. One is the regular transaction fee that is cut in each transaction. Each active full node having a positive network token balance will be eligible for such fees. The full node that updates the blockchain status, i.e. the miner, will get the regular transaction fee. The special transaction fee will be credited to the elected SFA. In each block, the probability of an active full node to be

elected is proportional to the number of the network tokens it holds. Likewise, in each block, there is another election among the SFA, whether having an active full node or not, to be credited with the special transaction fee. Additionally, token leasing will be possible to ensure the maximum security and versatility of the network.

Account Types

On the platform, users will have different types of accounts, where each account type has a different set of permissions. The crypto-account will be connected to the decentralized exchange, where everyone can issue assets with unique features customizable by way of smart contracts.

For example, a token, if programmed so, may disappear after a certain amount of time elapses, or a token may be issued with specific permissions such as the minimum amount to be transferred. The fact that such tokens exist on a non-permissioned public blockchain makes the network suitable for many applications. From loyalty token schemes to event ticket issuance, without default risk from the platform's side, and with utmost auditability thanks to the immutability and transparency brought by the use of blockchain technology.

The second type of account is a payments account, where users will hold and transfer national currencies such as the US dollar. This account may be used to make and request payments and buy goods and services. Notwithstanding the fact that the remittance facet of our business is heavily regulated, the payments accounts will be entirely integrated with the crypto-accounts, such that the same digital USD token will be freely transferable from and to one type of account to another. Thus, just like funding their cryptocurrency exchange accounts via traditional payment methods in the current system, users will be funding their TBB crypto-accounts with their TBB payments accounts via TBB's blockchain. The competitive edge of TBB's model comes from the low friction, high speed and the availability of the services with the least number of counterparties involved in the process.

The payments account of a user will at the same time be linked to a third type of account, namely, the brokerage account, where it will be possible enter into securities trading positions. This part of TBB will operate as a traditional brokerage with one difference. The collateral balance of a user will be constituted by the same digital USD tokens issued on TBB blockchain. The USD held in these types of accounts will not be transferable but only be usable to buy and sell stock fund shares, bonds, and various financial instruments. Whenever the user wishes to make a payment with the funds

committed to a trade position here, they will be required to close their position and transfer the funds to their payments account, where they may make the payment. Likewise, the user may also go further and transfer the funds to their crypto-account to benefit the decentralized exchange.

In addition to those three account types, those who have a brokerage account may apply for turning their accounts into an SFA. In that case, their network token holdings will be regarded as an investment that the user makes through TBB Brokerage.

Transaction Types

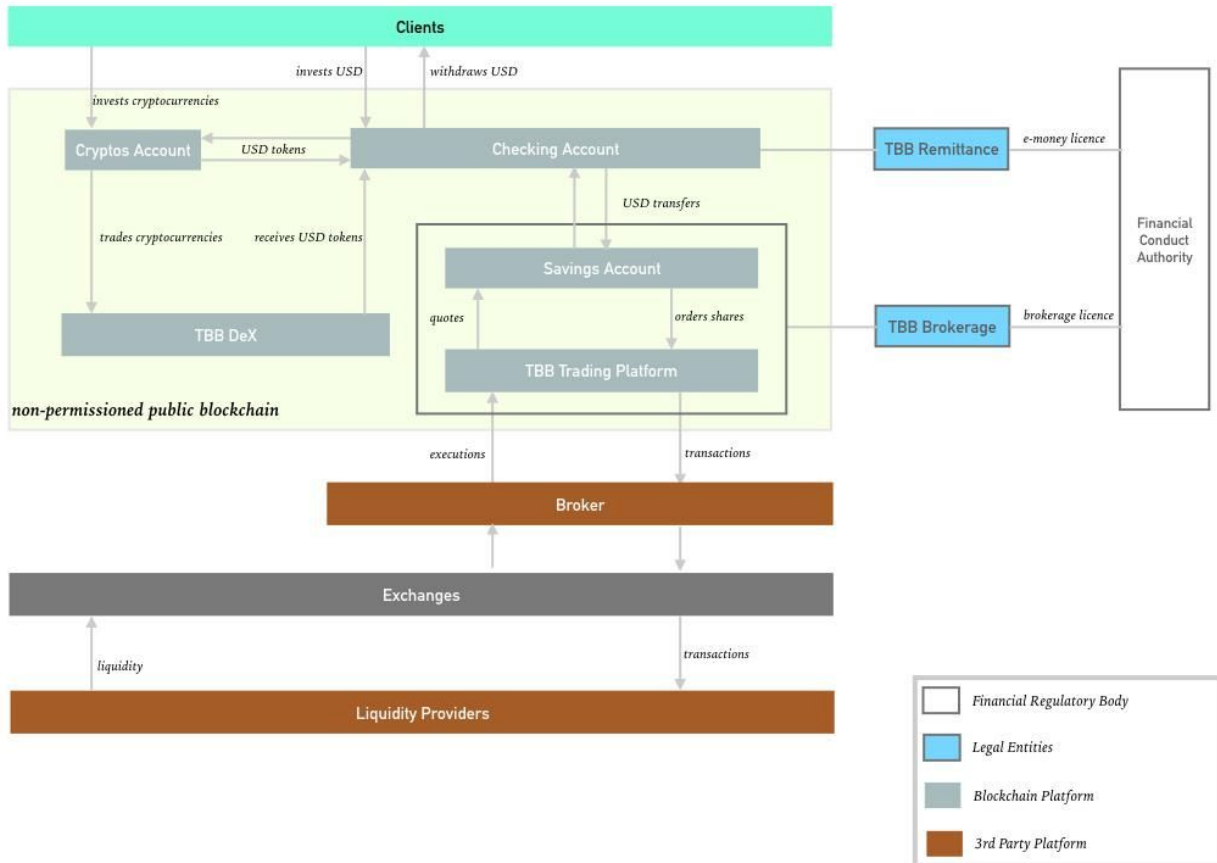
The transactions made from crypto-accounts will be treated as ordinary transactions and the fees associated with such transactions will be minimal network fees. On the other hand, the transactions made from the other two types of accounts are what have been called the special transactions, and hence will require a special fee structure, which was mentioned above in D-POS section.

Regardless of its type and its place of execution (e.g., NASDAQ), each transaction will have a record on the non-permissioned public blockchain. The special transactions will need to be validated by the institutions authorized by TBB; however, the associated special network fee will always go to the elected SFA of the relevant block.

In order not to compromise the freedom and versatility that the non-permissioned public blockchain technology brings, apart from the restricted crypto-assets such as the digital USD, which require that all the holders will undergo the KYC procedures mandated by laws, TBB's decentralized platform will allow users to issue, hold, transfer, buy and sell non-restricted cryptocurrencies and user-issued crypto-assets as well.

Infographics

The following diagram shows the interrelationship among the different segments of TBB's platform.

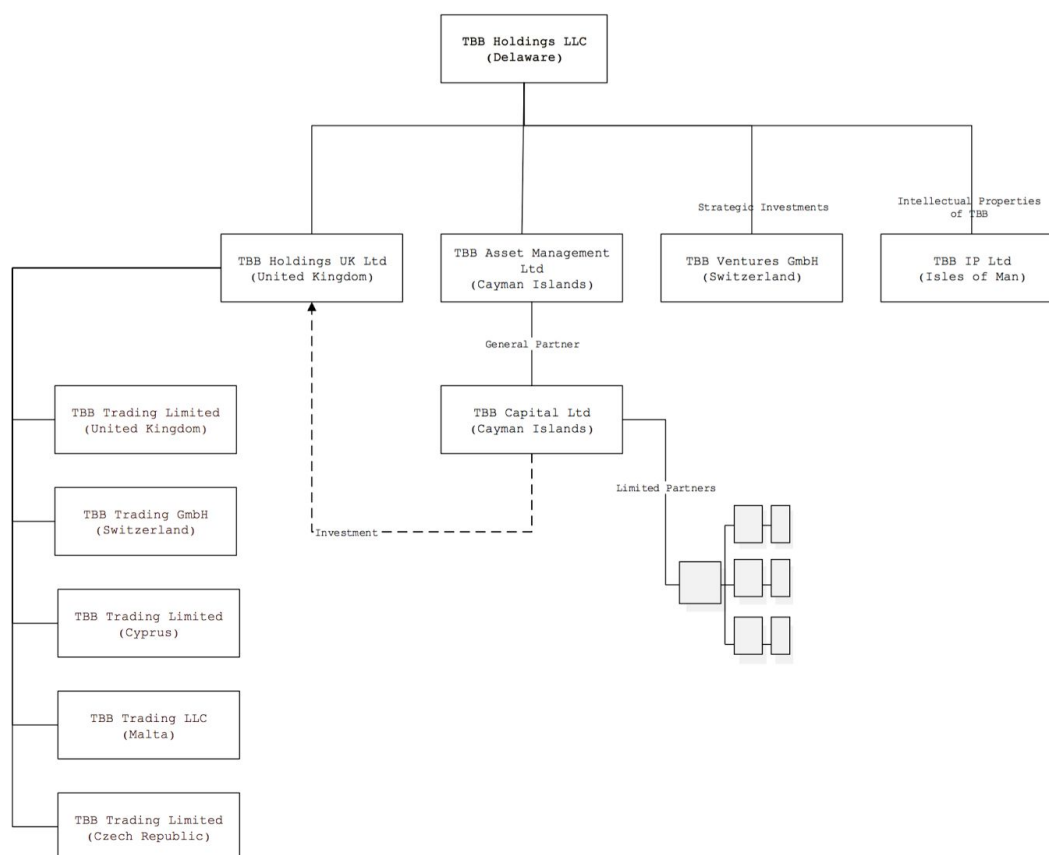


VI. Management and Partnerships

TBB will be formed as a holding company under which subsidiaries will operate for specific purposes in specific jurisdictions. One of the subsidiaries will be established as a Swiss Financial Intermediary Service Company, supervised under AMLA through FINMA/SRO registration. Additionally, the company will be trademarked through FCA Trademark Registration in the UK, which will allow TBB to carry out remittance services, which include issuing national currencies in the form of a crypto-asset, in the United Kingdom as well. A subsidiary company of TBB will be registered as a securities broker to enable the stock brokerage operations through blockchain.

Given that those licenses will be enough for TBB to operate on a completely legal basis on blockchain in all of Europe and in many other jurisdictions, the next step will be to acquire the equivalent licenses in the United States so as to have an access to the vast majority of the world's capital.

Find below the significant subsidiaries of TBB Holdings LLC.



Key Executives of TBB LLC:

Nathan Sharp, Chief Executive Officer

Biswa Das, Chief Administrative Officer & Chairperson

Christopher Ultinym, Chief Operating Officer & President

Can Soysal, Chief Business Development Officer

TBB has also established a network of reliable and well-regulated partner companies working with us. Below is a list of our liquidity and execution partners network:



VII. Planned Roadmap

Mid-January, 2017: *ICO campaign starts.*

February 1 - March 2, 2017: *ICO.*

March, 2017: *Initial employee team formations, blockchain development.*

April, 2017: *Company formations, license applications.*

May, 2017: *Launch of the blockchain with main features, excluding special transactions.*

June, 2017: *Prototype of securities trading with offshore license.*

July, 2017: *Decentralized insurance network to secure accounts.*

August, 2017: *Fiat transfers, payments and exchanges on blockchain.*

October, 2017: *Trading securities with blockchain entities starts.*

VIII. Glossary

AMLA	Switzerland Anti Money Laundering Act of 1997.
Atomic swap	An exchange of crypto-assets representing identical values on different blockchains.
Blockchain	An online distributed database technology, initially described in “Bitcoin: A Peer-to-Peer Electronic Cash System” and implemented in Bitcoin by Satoshi Nakamoto.
Crypto-asset	A digital entity created by the participants of a decentralized platform.
Decentralized platforms	Global electronic transaction systems that allow the issuance, transfer and trading of digital assets, powered by the blockchain technology.
FCA	The Financial Conduct Authority of the United Kingdom.
FINMA	Swiss Financial Market Supervisory Authority.
FIX Protocol designed	An electronic communications protocol specifically for real-time information exchange related to securities transactions, which is now an industry standard.
Full node	A blockchain network participant which downloads the entire transaction database and is hence eligible for network fee rewards.
KYC	Standing for the phrase “know your customer”, it refers to a set of practices mandated by regulatory bodies in relation to verifying identities of a business’ customers.
Multisig transactions	A type of transaction which is validated by more than one

spender private key.

Network fee	A fee payable by the participants of a decentralized platform in each transaction to the full node validating the block in which the transactions are included.
Network token	A digital asset functioning as the primary token in a decentralized platform, in which the network fee is paid.
Non-permissioned public blockchain	A blockchain whose use is not restricted to a predetermined set of participants, where the transaction validation is in principle able to be executed by any of the network participants.
Special audit nodes	A type of full node in TBB's blockchain, whose signature must be present in special transactions.
Special fee accounts	A type of account in TBB's blockchain, which is eligible to collect special transaction fees.
Stanford Remote Password Protocol	A security protocol that enables the proving of key ownership without exposing the key itself.
SRO	Self-regulatory organization.
The Blockchain Brokerage	A blockchain finance startup enterprise by Biswa Das, Can Soysal, Christopher Ultinym, and Nathan Sharp.
Token leasing	The operation by which network tokens in an account are leased to a full node to form a kind of collective reward pool.