Proof
Decentralized Certainty for Investments & Anonymous Participant Accountability

Mike De'Shazer
mike@proofsuite.com

David Van Isacker
david@proofsuite.com

Tai Kersten
tai@proofsuite.com

1. Introduction

Humans are not infallible. This fallibility is a strong driver of the uncertainties around the outcomes of future events. Other factors, such as natural events outside the control of humans, also contribute to uncertainties. Any system which involves humans cannot be expected to work in an exact, predetermined fashion, as could a simple digitally computed algorithm. In financial markets, the level of uncertainty drives the perceived risk associated with a given investment. Systems which allow market participants to financially stake their predictions on future outcomes as a form of insurance for those that rely on certainty exist today in the form of futures and options markets. These futures and options markets are typically complex, commonly consisting of centralized marketplaces, trusted market participants, registered brokers, various regulatory oversight bodies, and varieties of process ambiguity.

2. Our Solution

We propose a simple and digestible user experience for investing with simultaneous insurance protections governed by (and with the certainty of) immutable digitally computed algorithms. This proposed experience is driven by the Assurance Market Protocol (AMP). The AMP is a set of protocols and smart contracts that provide for a truly decentralized marketplace, involving untrusting counterparties whom might not be aware of each other's' true identities. The counterparties are able to trade ownership of physical and nonphysical assets without the need for brokers or traditional financial institutions to handle fiat currency. This activity occurs within a self-regulating, unambiguous environment built upon the cornerstones of deterministic, automated custodianship of financial assets and crowdsourced underwriting.

Proof[1] is a diverse financial asset marketplace that leverages blockchain technology to track ownership records of market participants. Within Proof, market participants are represented by blockchain addresses which perform transactions directly between one another by leveraging smart contracts which act as autonomous, preconditioned, escrow accounts. Proof also produces tools for creating and deploying smart contracts, producing legal documents for blockchain-related activities, and managing blockchain-based promotions, such as Initial Coin Offerings, commonly known as ICO's [2].

Proof's flagship product, the Proof Dashboard[3], serves thousands of users, integrating with various Proof Suite blockchain-oriented tools to empower new kinds of businesses serving its investors and token holders. While all asset records are stored on various decentralized blockchains, there are areas of centralization which we are converting into decentralized processes. These processes include:

- Curation of featured investments or coin offering based on trustworthiness of the issuers
- Creditworthiness and reputation scores of token issuers
- Holding of fiat currency, such as U.S. Dollars and Euros
- Conversion of fiat currency into cryptocurrency

This paper examines how these four areas will be decentralized on Proof, as well as how initial token holders of the seeding mechanisms that help drive this decentralization will benefit.

2.1 Curation of featured investments for Purchase on Proof Dashboard

There are a limited number of blockchain-backed assets listed on the first page of the Proof Dashboard. While all token offerings created with our tools can be found by search, featured assets on the first page, essentially indicate that Proof has validated the owner of the asset and screened the issuer to ensure financial solvency and ability to ensure investors recoup their investments. This is a centralized process. Proof is transitioning from this curation process by implementing the Assurance Market Protocol (or "AMP").

AMP consists of built-in insurance facilitation within token smart contracts utilizing the Event Verification and Settlement standards (EVS standard) outlined in the next section. AMP also consists of a prediction market smart contract in which speculators and analysts can stake their assumptions that a token offering participant will not recoup their investment. By automatically featuring token offerings valued at over $100,000 USD ensured by at least 60% of the initial valuation, Proof is decentralizing the curation process with a process that crowdsources and provides financial incentive for analysts to determine the risk of an asset, as well as protects investors from loss with automated insurance claim fulfillment.

2.2 Creditworthiness and Reputation Scores of Token Issuers

Proof's current reputation system for users averages an issuer's cumulative 1-to-5 star ratings of token purchasers, weighing their vote according to their corresponding token holdings of an issuer's offering. These rating records are stored in a traditional database like that of a typical marketplace such as Ebay or Amazon's rating systems. These scores are being transferred to the Ethereum blockchain as immutable records for candidate token purchasers to assess the credibility of an issuer based on past performance.

The biggest challenge to this kind of opaque recording system and rating process is the opportunity to game the system by purchasing assets from one's self with a different account and repeatedly giving their initial account a positive rating. For this reason, blockchain-based rating records will only be stored for assets that meet the valuation threshold to be featured with the appropriate amount of insurance reserves. While this prevents lowly capitalized scams, it could offer highly capitalized ones to the greater Proof userbase. However, the more well-capitalized, the greater the return and incentive for analysts and speculators to investigate the offering, warn investors from investing, and publically wager on a negative outcome, signalling risk to investors while leaving an immutable mark for the issuer's address in the Credibility Scoring Ledger.

The following illustration demonstrates how these features are being prepared for presentation on the current Proof Dashboard by showing a simple asset token page. In this illustration, we feature a home. However, this could be a tokenized stock, bond, or other sort of underlying asset.

2.3 Safely Holding Fiat Currency For Users Without a Bank Account

Currently, Proof Suite, Inc. receives USD and EURO in two ways. First, users purchase USD credits via credit card. Second, users load their accounts with Bitcoin or Ethereum and convert those funds into USD and EURO credits. Proof, like many cryptocurrency exchanges such as Coinbase or Coinplug, is responsible for maintaining a database of user balances and storing bank/credit card-deposit funds in a third-party financial institution for later purchasing of more cryptocurrency for conversion or issuing refunds.

We are currently transferring the recordkeeping of USD balances from traditional relational databases to tokens on Proof's Ethereum blockchain. While this helps reconcile transfer histories in more linked and tamper-proof manner, it poses the same problems that the cryptocurrency Tether[4] has. While there is transparency and immutability regarding the movement of funds, users must trust that their Tether token is actually backed by currency reserves. To solve this problem, we are introducing Crypto Fiat which pegs Ether to USD or Euro in an Ether reserve wallet. These Crypto Fiat smart contracts on the Ethereum blockchain will increase its pool of reserve Ether pegged to fiat from commission revenue generated from speculators in a corresponding cryptocurrency Price Prediction market. This system offers a truly decentralized cryptocurrency pegged to government-issued fiat and removes Proof as a type of trust fund, preventing exposure of crypto-fiat holders to reserve theft, account freezing or other factors.

2.4 Conversion of fiat currency into cryptocurrency

Using the Proof Dashboard, users can convert their Bitcoin or Ether into USD or Euro credits and back. By leveraging our crypto-fiat smart contracts, users can securely convert between Ethereum and Crypto-USD and Crypto-Euro (C-USD and C-Euro respectively) without the need of Proof or other services like Coinbase to serve as exchanges. By transacting directly with a smart contract to accomplish this, the blockchain-exclusive system reduces reliance

on Proof's cloud services which could go down due to attack, overflow of traffic, cloud-service provider bugs, or government censorship. This turns capital controls preventing the movement of funds into different currencies to become, over time, an obsolete practice.

2.5 Asset Presentation Page with AMP Integration

Figure 1 : Asset Presentation Page Concept Wireframe

Section 1 of Figure 1 demonstrates where a candidate-investor user can see how much of their investment is insured against loss by the issuer for associates close to the issuer or other users who have done due diligence to guarantee a large percentage of the asset. A link

from this portion demonstrates the insurance terms and what triggers insurance payouts to investors.

Section 2 of Figure 1 demonstrates where a candidate-investor user see how much speculators have wagered on their belief the offering is fraudulent or that that investors will not recoup much of their investment.

Section 3 of Figure 1 gives the user an assessment of risk based on the issuers' credibility score, the insurance placed on the asset against tremendous loss, and the prediction markets' staked assessment of failure. This area provides general accessibility to the risk profile of a potential token purchase.

Section 4 of Figure 1 provides the user with the option to either insure the token investments or predict against the asset, with details of when an insurance claim is processed and in what event speculators will recoup their wagers with bonuses, along with current rate of reward in a given outcome.

Section 5 of Figure 1 shows to a user the issuer's star rating, along with previous offering results recorded by the EVS and the number of previous investor reviews stored on the blockchain. In this case, the issuer has 4 out of 5 stars.

3. AMP : Assurance Marketplace Protocol

The Assurance Market Protocol (AMP) consists of a decentralized marketplace leveraging blockchain or tangle technology, tamper-proof credibility scoring, crowdsourced investment underwriting, a risk-signaling prediction market, and cumulatively, a method for validating the veracity of off-blockchain ownership claims, asset management competence, legality, and issuer reliability.

Figures 2 demonstrates how the four smart contracts in an AMP standard trade interaction work. Figure 2 demonstrates what occurs when the pre-determined conditions of a EVS-compatible token smart contract are met positively and token holder funds are made available. Figure 2 also demonstrating how Proof token holders benefit from interactions within this process. It is important to note that another exchange could use the AMP protocol and issue benefits to a different set of token holder, typically seed investors or the company itself. In the case of Proof's AMP implementation, the benefactors (token holders) are made up of 50% as Proof and 50% as outside Proof token holders. Figure 3 demonstrates the opposite outcome of what is depicted in Figure 3, when the EVS smart contract determines that a token contract has not met its predetermined obligations towards token holders.
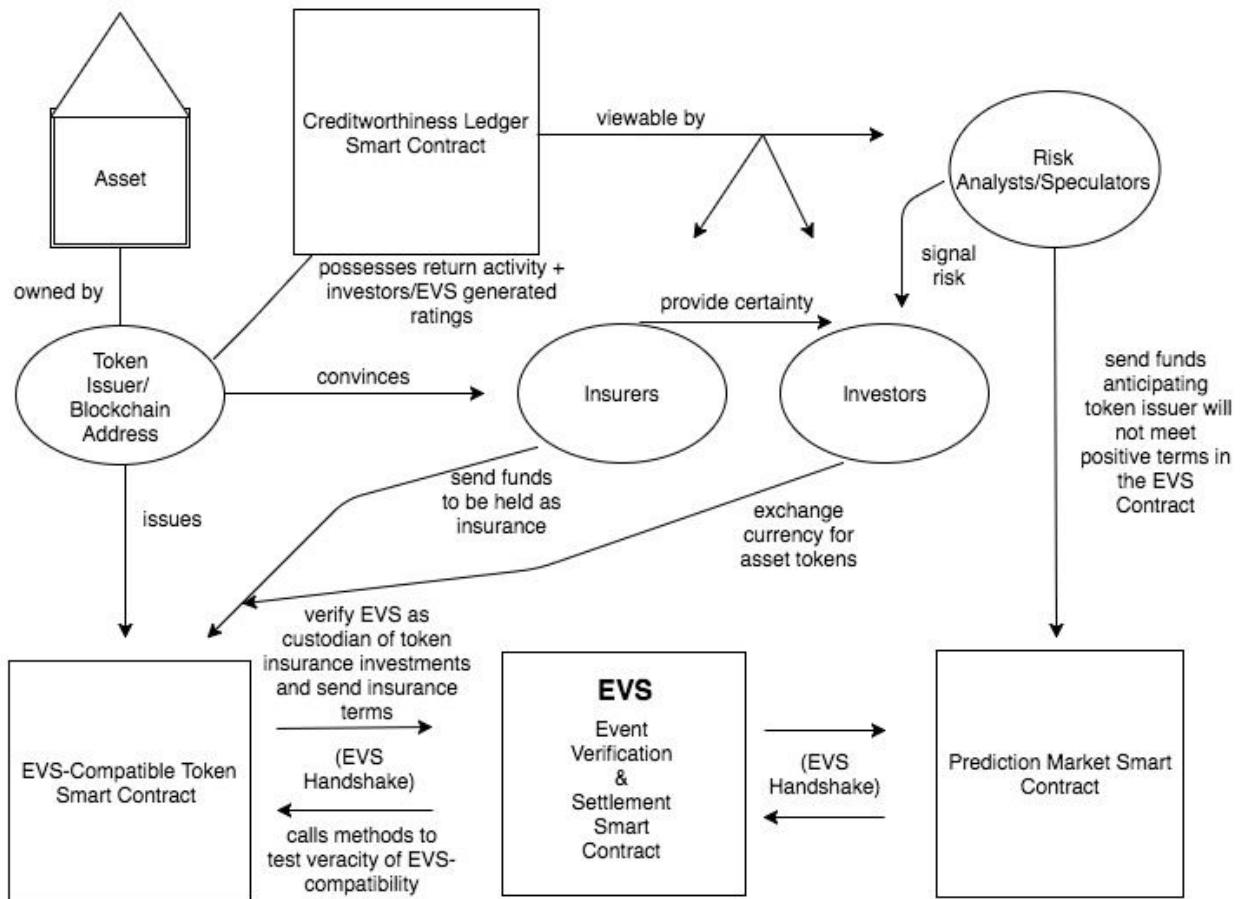

Figure 2 : AMP Standard Trade Interactions

In the above Figure 2, an underlying asset, which could be a commodity, real estate asset or other kind of financial instrument is represented by "Asset". The token issuer is the owner(s) of the asset and tokenizes it by attaching a legal agreement hash to a smart contract, which is currently done on the Proof Dashboard when issuing an asset-backed token smart contract for trading fractional ownership as cryptocurrency. In Figure 2, the issuer then writes or leverages Proof to generate a EVS-Compatible smart contract. This smart contract then interacts with the EVS contract, described below. The EVS then communicates with the Prediction Market Smart Contract and registers the terms set by the issuer regarding what would be considered failure to return capital to token investors. Seasoned Risk analysts and speculators who know about the issuer can then wager against a successful result regarding the asset with blockchain-based funds. Additionally, insurers who know the token issuer can stake their confidence with blockchain-based funds to indicate to investors that the investment is safe by providing decentralized insurance of their future investments.

3.1 Event Validation & Settlement Smart Contract (EVS) :

The centerpiece of the AMP is the Event Validation & Settlement Smart Contract (EVS) which:

1. Validates EVS-compatibility of a token smart contract via method calls and oracles to determine said token contracts' methods and properties. This is shown in the EVS Handshake in Figure 2.

2. Gains rights within the handshake process as the sole controller of insurance funds within a corresponding token smart contract, the funds of which are either Ether (cryptocurrency) or crypto-fiat (tokens), as described in the following section, in the event of a negative outcome in the event of a predefined negative outcome by a token issuer.

3. Gains rights to a prediction market smart contract to send speculator-staked funds to insurers in the event of a predefined positive investment outcome, proven by currency deposit into a particular validated EVS token smart contract by insurers.

4. Submit reputation scores in the creditworthiness ledger smart contract based on payout events by the issuer to a token smart contract as shown in Figure 3 and Figure 4, based on the two different sorts of outcomes.

The Token Smart Contract in all three Figure 2 depictions is dynamically generated and represent a given underlying asset or initiative. This smart contract consists of 6 main methods:

1. A **purchase** method that allows token holders to exchange cryptocurrency for a given token offered. Each token has a limited total supply or inflationary schedule either dependant on time or events.
2. An **ensure** method which allows users to place cryptocurrency into a reserve which will solely be controlled by an invocation of a method to payout to speculators or asset holders in the event of non-satisfaction of predetermined conditions during the token smart contract's creation.
3. The **EVSVerification** method is a method called to the EVS contract to verify that the contract is EVS-compatible in the handshake process between the token contract and the EVS contract.
4. A **depositPayout** method which is invoked by the issuer(s) exclusively when the underlying asset generates revenue.
5. A **sendInsurance** method which can exclusively be invoked by the EVS contract and not the issuer or other users to control the movement of insurance funds based on token contract activity.
6. A **receivePayout** method which allows token holders to receive their cryptocurrency after the issuer invokes the **depositPayout** method.

The Prediction Market Contract registers new prediction opportunities as requested exclusively by the EVS smart contract into its ledger. As requested, the prediction market contract registers the terms of the EVS-compatible smart contract and the contract address, reserving the right to transfer negative prediction market speculators' funds in the event that insurers receive their funds back due to predetermined conditions of token investor success being met. In Figure 2, the Prediction Market sends speculator's funds from the Prediction market smart contract as a distributed return on investment, proportional to the risk indicated by the prediction market.
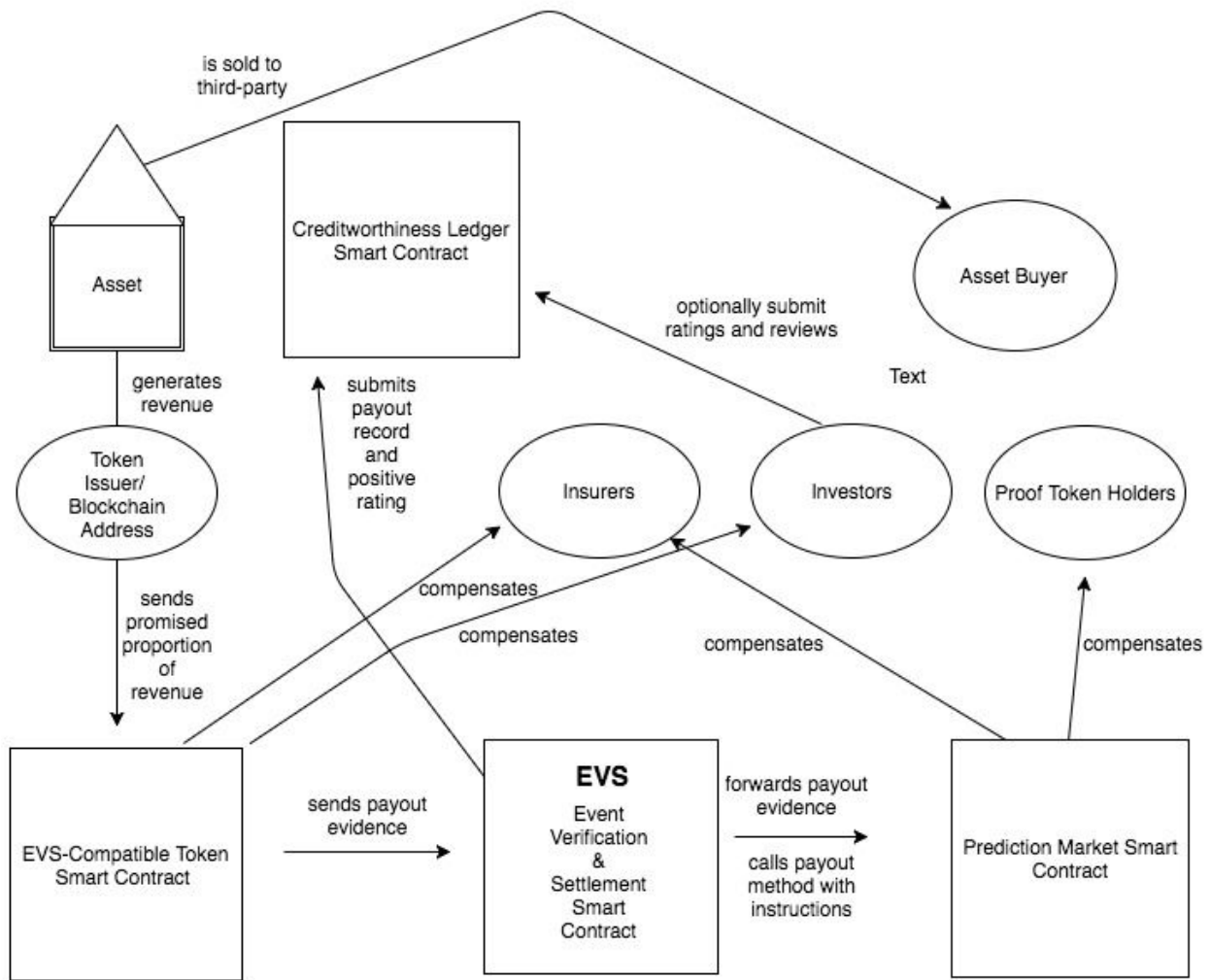
Figure 3 : Predetermined conditions are met

The Creditworthiness Smart Contract is accessible by token holders of an asset token offering that has been resolved or has received an incremental resolution step in the form of a reward by the EVS smart contract. The EVS registers a EVS-Compatible token smart contract issuer with the Creditworthiness Ledger smart contract if an asset is valued at over $100,000 USD and is insured for at least 50% of its initial valuation. When there is a resolution event or step within the EVS-Compatible token smart contract, the EVS registers this with the Creditworthiness Ledger contract. Additionally, recognized token holders of a particular token contract can issue their textual reviews with up to 256 characters, along with a 1-out-of-5 star rating based on their experience which is immutably stored in the Creditworthiness ledger for future candidate token purchasers to see. The amount of their token holdings is used as a weight to determine how much their rating affects the issuer's total score and the order by which their reviews are presented to the public.
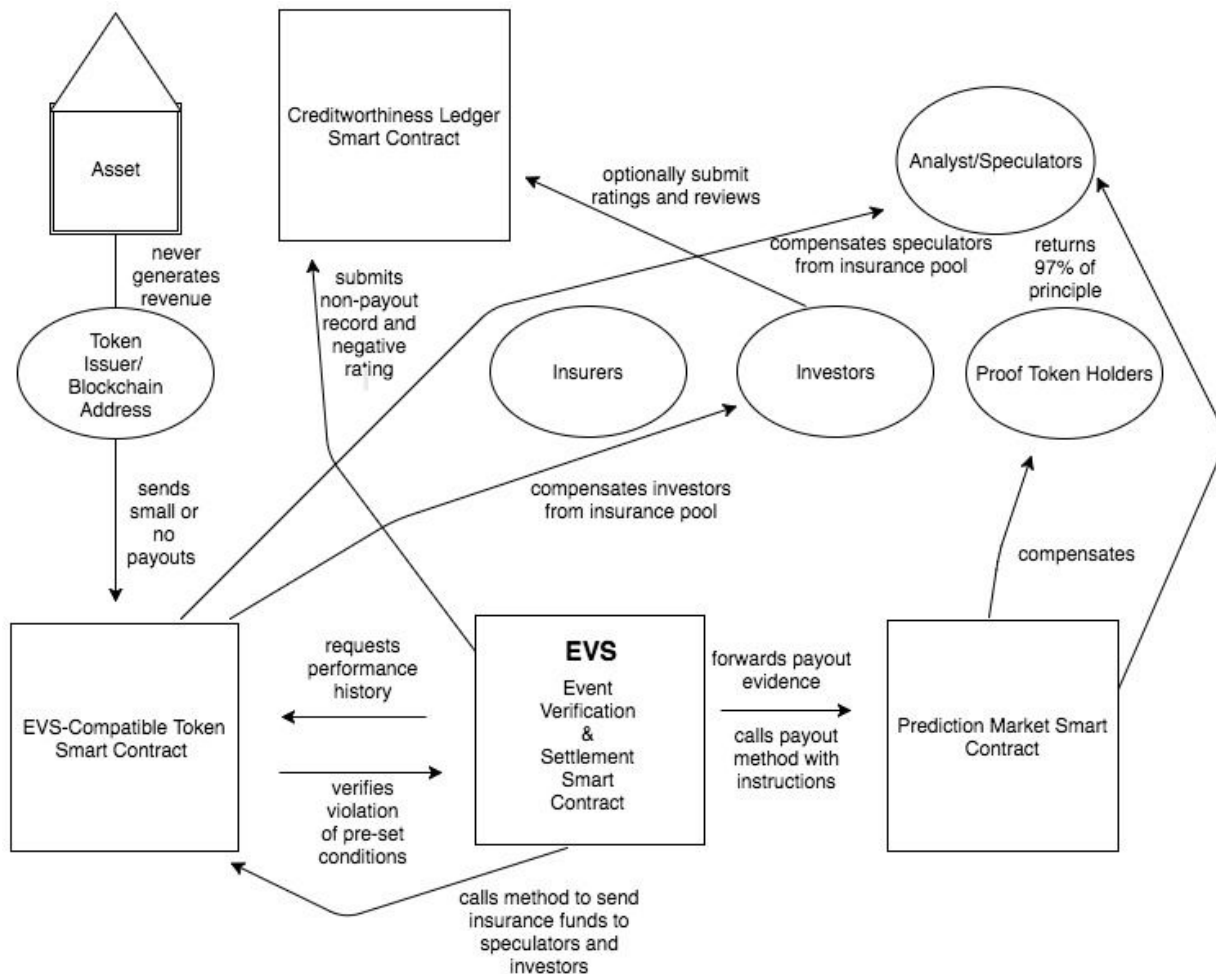
Figure 4 : Predetermined conditions are not met

Figure 4 (above) demonstrates a scenario in which an issuer of an off-blockchain asset does not meet their pre-determined measures of success. The token holders receive 47.5% of all insurance held within the token smart contract, as triggered by the EVS contract. The accurate speculators and analysts who predicted against the token's success receive 47.5% of the insurance pool. Meanwhile, Proof Token holders receive 5% of the insurance pool. 0% is returned to insurers who insured a token offering which was either fraudulent or unfortunate, in exchange for compensation to the token holders and rewards to the speculators who flagged risk to those investors by staking their financial assets.

4. The Crypto-Fiat Smart Contracts

For an exchange that implements AMP in order to drive truly decentralized trades, there will be different preferences among investors and token issuers regarding what currencies should be leveraged to settle investment purchases and sales. Traditional exchanges such as Nasdaq uses US Dollars, while Euronext uses Euros. The aforementioned currencies are commonly perceived as stable, albeit inflationary, stores of value. However, these currencies as of today cannot be stored in blockchain-based smart contracts. Solutions such as the cryptocurrency Tether focus on solving this issue by pegging their currency to dollars and storing the physical dollars in vaults. This requires Tether holders to trust a centralized organization to be honest, and are at odds with the principles of trustless transactions.

Ethereum's cryptocurrency, Ether, can be stored in smart contracts. Today, Ether is not used as a common means of exchange, however, in part due to its large fluctuations against today's most popular means of exchange. In order for AMP exchanges to gain adoption, investments will need to be made and resolve with stable stores of value. To solve this problem, while maintaining a trustless system, we are developing smart contracts which manage, issue, and exchange tokens pegged to the value of the US Dollar and Euro.

Figure 5 depicts this implementation. To summarize:

1. The initial contract is seeded with vast amounts of Ethereum in its reserve.
2. Users can purchase fiat-pegged tokens directly via the smart contract by contributing to the reserve.
3. Half of 1 percent of each purchase of fiat-pegged tokens is sent to the original reserve seeders of the smart contract, while half of that 1 percent is taken as a fee by the smart contract to help protect against price volatility.
4. Additionally, in order to protect against price volatility, and particularly Ether price decline, a currency prediction market contributes funds to the reserve of Ether in the fiat-pegged token smart contract.
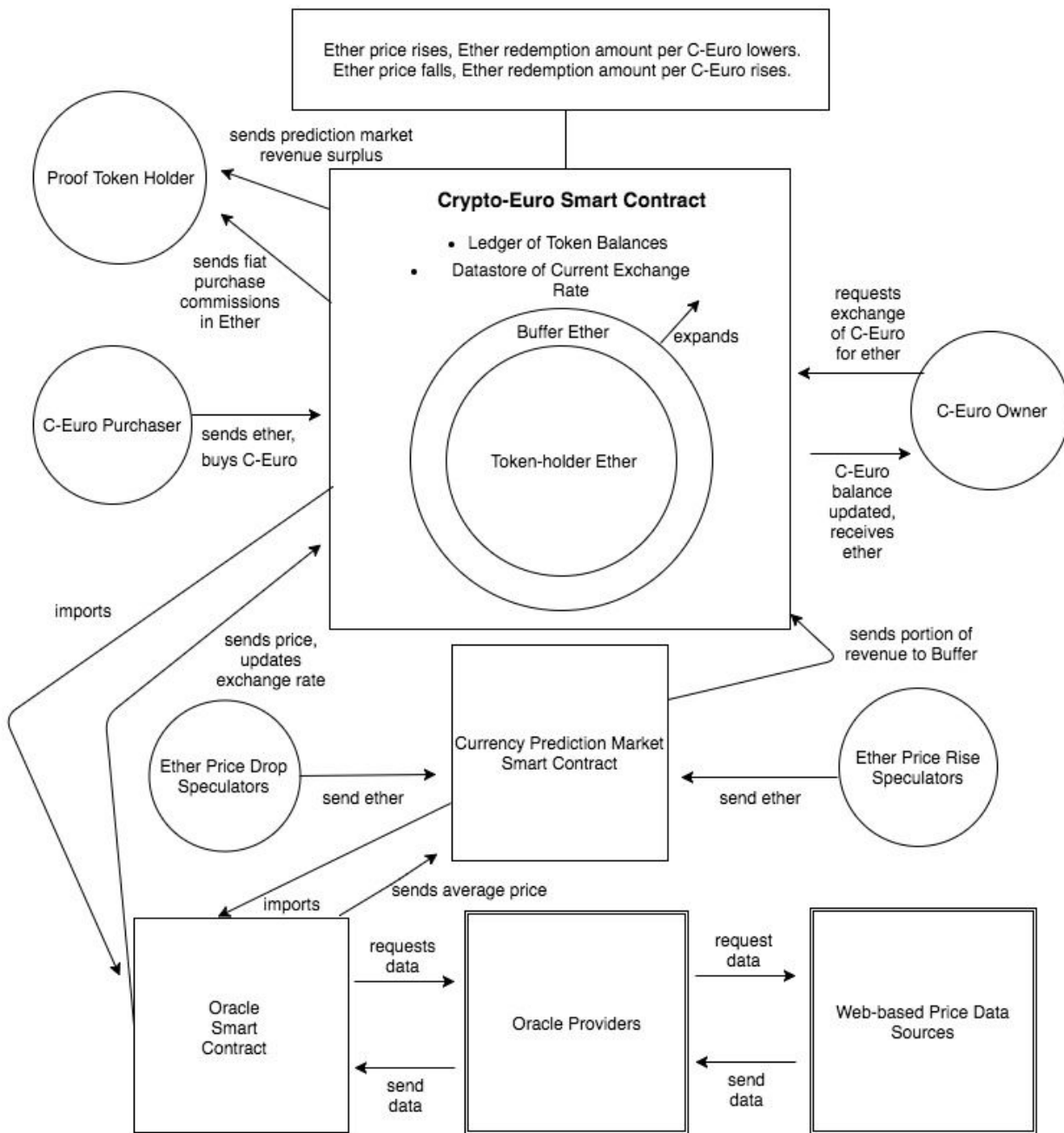
Figure 5 : Crypto-Fiat Smart-Contract Implementation

Figure 5 demonstrates Crypto-Euro (C-Euro) being purchased by a C-Euro purchaser, as well as C-Euro being exchanged for Ether. The amount of Ether the C-Euro purchaser receives is based on the current exchange rate average across more than 20 popular exchanges, ignoring outliers. The purchase price is the C-Euro is based on this same exchange rate.

4.1 Volatility Protection

If the Ether smart contract holds 10,000 Ether from all depositor purchases in a day and the exchange rate is €240 per Ether, then all participants can withdraw their funds on that same day and receive the cumulative €2,400,000 worth of Ether they put into the smart contract on that day. However, if all C-Euro holders do not sell their Ether, but the value of Ether suddenly drops to €120 per Ether, C-Euro holders will receive a cumulative €1,188,000 worth of Ether (taking into account the deduction of .5% of deposits that went to Proof Token seeders) and 99.5% of the Ether they deposited but at a lower value than they deposited as compared to the Euro.

One may wonder what would then be the rationale of purchasing such a token that is supposed to protect against volatility. The aforementioned scenario demonstrates a worst case scenario and, in this scenario, all participants recoup a vast majority of what the currency they began with, all the while not relying on trust in a centralized institution or the fear of reserve theft. This worst-case scenario, however, does not take into consideration the protection designed to maintain the peg. These protections include the initial seed in the reserves. This is one of the largest keys to drive adoption of crypto-fiat. If there was a seeded reserve, not owned by anyone, but seeded by entities receiving 0.5% fees for crypto-Euro purchases (Proof Token holders), totaling 25,000 Ether, then the participants in the worst-case scenario, would receive their cumulative €2,400,000 worth of Ether that they deposited, except while there was 10,000 Ether deposited by token purchases, 20,000 Ether would be withdrawn by participants because of the 50% ETH-Euro price decline.

4.2 The Currency Prediction Market

Another protection built into the system is a corresponding currency prediction market. This prediction market allows speculators to stake Ether based on their prediction of Ether's price movement within a smart contract. For example:

1. Two participants could stake a cumulative 1000 Ether that the price declines during a 4-hour interval, while three participants stake a cumulative 500 Ether that the price will rise.

2. Once the 4-hour interval concludes, the average price across exchanges is determined. If the price of Ether rose, then the three participants who staked Ether on a rise are awarded a their original 500 Ether in addition to 900 Ether from the other side of the market, for a cumulative 1,400 Ether.

3. The remaining 100 Ether is sent as a commissions into the Crypto-Euro smart contract. If the Crypto-Euro has a sufficient buffer of over 20%, plus the 100% reserve based on the current exchange rate, of outstanding C-Euro in circulation, then 30% (30 Ether in the above scenario) of the revenue generated for the Crypto-Euro contract by the prediction market is made available to Proof Token holders, while the remaining 70% (70 Ether) is added to the buffer defending against

lower-than Ether-Euro exchange rate conversions by C-Euro holders converting to Ethereum at future dates.

The same model as described for C-Euro applies for the initial C-USD smart contract being initially launched by Proof, with a corresponding prediction market and seed reserves. As the reserves in these smart contracts grow from purchases and the buffers grow from revenues, C-Euro and C-USD can be a dependable, decentralized, means of exchange in AMP exchanges. To make this a success, Proof is building easy-to-use, intuitive tools for speculators to participate in the currency prediction market and open-sourcing the development to encourage others to make the offering available within their websites, earning a portion of revenues from Proof's internal holding of Proof Tokens. Additionally, this architecture can support other fiat and other cryptocurrencies which can take on either role of backing currency or currency-of-issuance.

In order to get a fair exchange rate, an oracle contract will create an average from 20 exchanges with outlying price data which falls outside 2 standard deviations excluded. Both smart contracts will import from the Oracle Smart Contract data provider whose sources will be verifiable by the public. A significant percentage of the Web-based Price Data sources will come from high volume exchanges, however, there is also a possibility to utilize prediction markets or other mechanisms for a more decentralized form of price determination.

Upon implementation of these contracts, all assets on The Proof Dashboard will be purchasable with C-Euro or C-USD. Likewise, speculation and insurance market activity will occur through these fiat-pegged tokens. Although we anticipate this being a popular way for users on the dashboard to transact, the cryptocurrencies Bitcoin and Ethereum can also be used based on the currency determined by that asset's issuer.

5. The Proof Token

The Proof Token will be issued publicly for the first time on November 1st at 10 PM UTC + 09:00, 2017. Initially, Proof will issue 2,362,062 tokens and publically offer 1,181,031 tokens at a price of .088 Ether per token. The publically offered 1,181,031 tokens will be available for purchase via the Proof Token smart contract. The other half of the tokens will be held by Proof. All token holders will collect regular automated rewards from all activities in the prediction markets that make up Proof's AMP implementation as well as a percentage of fees from all crypto-fiat purchases into perpetuity.
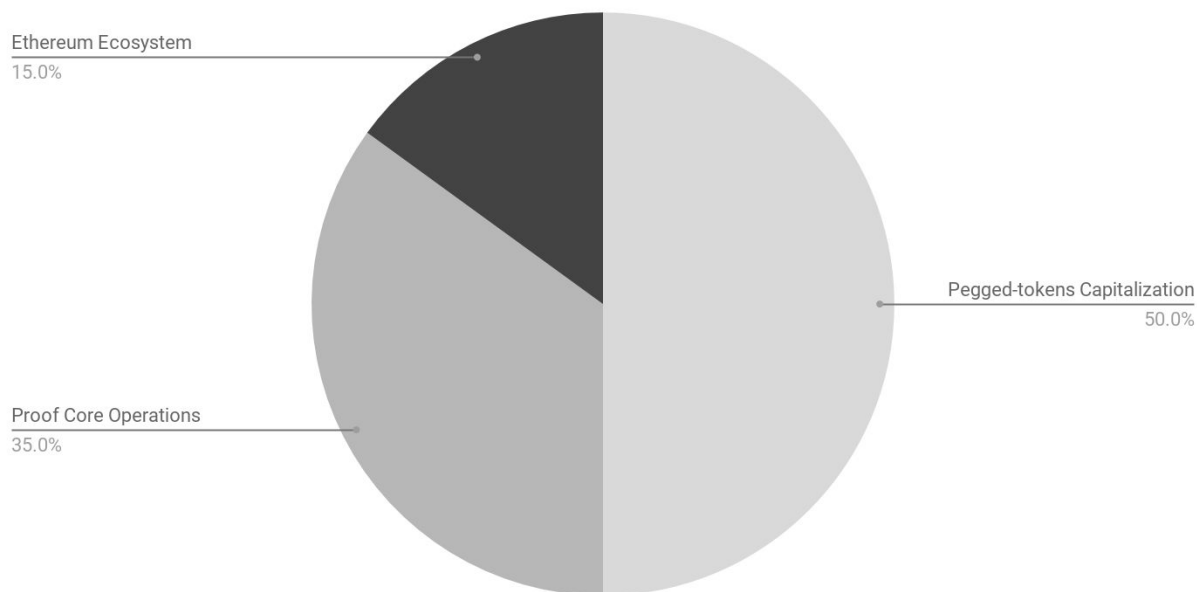
Figure 6: Proof ICO Funds Distribution

50% of all proceeds raised will be placed in the Crypto-Euro and Crypto-USD smart contracts to capitalize the issuances of the fiat-pegged tokens. Another 15% of revenue from token sales will be leveraged by Proof to issue bounties towards the further development of Ethereum blockchains to support the move towards scalability. The remaining 35% of the token sale proceeds will also go towards the core operations of the Proof platform as well as the full decentralization of the entire Proof application ecosystem.

Upon conclusion of the tokensale, half of all funds raised will go into the Crypto-USD and Crypto-Euro contracts in order to capitalize those markets. The contracts will not contain any ability for a member of Proof to extract funds in a manner different from anyone else thus locking in the funds and creating a utility contract for all.

This also contributes to why Proof is keeping half of the tokens. Since The Proof Dashboard is a functional marketplace, many operational tasks such as smart contract audits, customer support, marketplace expansion, security audits, legal support, expansion of development personnel, public relations, and the scaling of architecture. These are all expensive initiatives that will immediately begin implementation as soon as the token sale concludes. Proof seeks to align itself with the token holders by keeping half of the tokens and having half of the rewards go to the company as a primary source of revenue. This is also a mechanism for decentralizing even Proof's revenue model.

5.1 Fiat-Crypto Seeding

One of the most important uses of the ICO funds will be in seeding the Fiat-Crypto Contract's ether buffer. In order for this utility token to work, it must be backed by a large pool of capital which allows for the creation of the C-USD and C-EURO while also creating the stabilization necessary for the system to work at all. The contracts Proof Deploy during implementation are not confined to The Proof Dashboard and will be available to any platforms who wish to use it as long as they acquiesce to Proof Token holders receiving a small portion of their transactions. This seeding of the Fiat-Contract Marketplace also lends actual value to the initial issuances of the Crypto-USD and Crypto-Euro meaning that almost immediately, they will be ready for use on platforms beyond Proof.

5.2 Ethereum Blockchain Scaling

Although Ethereum purports to support 15 transactions per second, the addition of a Turing complete virtual machine complicates this number[5]. A developer must consider added compute time and arbitrary function call patterns when programming a smart contract which, in the past, has caused mass network disruption. A dramatic example of this occurred during the Bancor ICO when over 10,885 buyers simultaneously attempted to purchase the Bancor token[6]. Bancor structured their ICO to accept transactions on a probabilistic basis rather than basing it on gas prices. Although more egalitarian, the ICO, in effect, caused a DDOS on the Ethereum network as users threw as many transactions at the contract as possible to boost their likelihood of purchasing. Although block times stayed level at around 16 seconds per block, wait times for transactions actually getting in blocks grew from the usual max of a few minutes to purported transaction times across the entire network ranging from 30 minutes to over an hour per transaction. It would be easy to blame the ICO's themselves for this issue, however, with the rise of popular but compute heavy decentralized applications such as Etheroll[7], Augur[8], Oracalize[9], and Proof itself, this kind of network congestion must be viewed, not as an anomaly, but as the new normal. This is especially important since Ethereum's self stated raison d'etre is to be a platform for decentralized applications.

Currently, the scaling and speed solutions proposed by The Ethereum foundation have included a sharding solution promising thousands of transactions per second and a move over to pluggable proof of stake with the foundation creating their own protocol dubbed, 'Casper' [10]. These changes will include another hard fork of the Ethereum chain and will bring along with them a high likelihood of mass disruption across the entire Ethereum application space. Since the timelines for these initiatives are highly ambiguous, there exists a need to accelerate these essential technologies.

In the spirit of Proof's collection of developer ease-of-life tools, and since the continued existence and health of The Ethereum blockchain and community is paramount to the success of Proof, 15% of funds gained will be used for developer outreach, code bounties, and educational initiatives meant to enrich the Ethereum ecosystem. Because the core of

any blockchain are the developers who work on it and the innovations that arise from their labor, Proof will establish a fund for expediting progress towards Metropolis and Serenity.

Proof seeks to take a leadership role in helping the application space prepare for dramatic changes to the core protocol such as the aforementioned move to Serenity which encompasses the introduction of sharding addressing scalability, Casper Proof of Stake, and runtime changes to the EVM amongst many others. On the protocol and architecture levels, the initiatives Proof creates will also be aimed at incentivizing talented individuals to get involved with the public repositories of projects such as the Ethereum Core [11], Ethermint[12], and Raiden[13].

Likewise, Proof will look into expanding the fund to assist with application developers and projects working on nascent projects with Bitcoin. Since Bitcoin[14] continues to be a 'transaction-only' system, the number of 'application level' projects is low.

6. Conclusion

If government-issued fiat can be reliably pegged to decentralized mediums of exchange, people who wish to store value outside the purview of governmental regulators may opt to participate in pegged monetary markets. If property investments, company equity, securitized debt and other instruments can be traded outside of government regulated exchanges free from third-party confiscation, people who seek to avoid centralized interference into their holdings, might opt to participate in AMP exchanges. Additionally, financial gains could no longer be subject to the volatility of today's cryptocurrencies or suspension of access to financial accounts. This would essentially be financial sovereignty to establish and finance rogue nations with financial yields coming from different markets around the world, without the fear of confiscation. Capital would have the ability to be freely transportable regardless of restrictions on intermediaries.

The notion of this freedom of capital, especially across borders, would raise many security concerns among centralized institutions around the world. Even with court demands and regulatory actions imposed to limit access to web-based services that leverage this enabling technology, the uncontrollable properties of smart contracts leveraging blockchain technology could render cease and desist orders unenforceable.

AMP processes also transform how investors assess risk, with the goal of removing the necessity of oversight by today's traditional rating agencies and regulators to help determine the validity or health of investment opportunities. Furthermore, AMP markets promote global competition for investment opportunities, avoiding protectionist policies and accelerating the ability of local communities to garner favorable terms in financing initiatives geared toward their own growth and sustainability.

To realize a world of financial markets with blockchain technology as a backbone, the underlying technology must be able to scale to meet the demands of market participants. As AMP markets grow and the adoption of crypto-fiat gains traction, though this may take time, real-world use cases this early is essential to tackle the question of scalability. Lower barriers to entry, active platforms, automated verification, more fiat and cryptocurrency-pegged tokens, and a further decentralization of all these aspects are laying the foundations for the next iteration of financial interactions previously described. Proof seeks to help create the tools, collaborate, cultivate development communities to tackle these challenges, and focus on furthering the proliferation of more infrastructure and application layer offerings for blockchain technology to promote transparency and decentralization enabling the freedom of capital flows.

References

1.) Proof : Proofsuite.com
2.) https://en.wikipedia.org/wiki/Initial_coin_offering
3.) The Proof Dashboard : beta.proofdashboard.com
4.) Tether: Uncredited, *Tether Whitepaper*
   https://bravenewcoin.com/assets/Whitepapers/Tether-White-Paper.pdf
5.) Ethereum; Wood, Gavin; *Ethereum: A Secure Decentralized Transaction Ledger;* EIP-150
   Revision.
6.) Bancor: https://github.com/bancorprotocol
7.) Etheroll: https://etheroll.com/
8.) Augur: https://augur.net/
9.) Oraclize: http://www.oraclize.it/
10.) Proof-of-Stake: https://github.com/ethereum/wiki/wiki/Proof-of-Stake-FAQ
11.) Ethereum: https://github.com/ethereum/wiki/wiki/White-Paper
12.) Ethermint: https://github.com/tendermint/ethermint
13.) Raiden: https://github.com/raiden-network/raiden
14.) Bitcoin: https://bitcoin.org/bitcoin.pdf