ICO Governance: a Protocol-Based Self-Regulation of Token Sales in Decentralized Capital Markets

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Abstract

By decentralizing trust, Nakamoto consensus has sparked a revolutionary movement that seeks to go beyond financial infrastructure to decentralize every vertical industry and market. By bringing measurable economic externalities¹ (including those that arise from centralization) into decentralized ledgers, and offering token incentives, newly-formed cryptocurrency-based markets compete on the basis of being the most efficient, inclusive and effective at incentivizing participants to add value to the network while eliminating economic free-riders. Further, by decentralizing the service organizations themselves through mechanisms like open protocols and open source, these new technology platforms can be forked by their communities when they fail to continuously deliver valuable updates to major groups of stakeholders. Blockchain characteristics such as cryptographic security, world-readable consensus-based public ledger, immutability and irreversibility combined with decentralized organizational properties like forkable open source implementations and the use of nonprofits helps to solve the problem of trust-at-a-distance. Ironically, the ICO market today is filled with gross externalities including intransparency, inefficiency, exclusion and is being led by free riders such as hackers, scam artists and simple greed.

This paper is based on the belief that decentralized capital markets are capable of self-regulation, but not when ICOS hide, obfuscate, misrepresent or abruptly and unilaterally change after-the-fact key information about the tokens that are being sold. It proposes a registration protocol called IGF-1 that provides financial transparency needed to protect token buyers and facilitate capital formation. The protocol includes

¹ Costs placed on market participants without their consent (such as pollution)
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ICO Governance Foundation White Paper

1. Background

“We are in an ICO bubble…. a lot of projects will fail and people will lose money” – Vitalik Buterin.

The ICO market is overheated and filled with economic free-riders which will produce significant negative effects. Instead of replaying the dotcom crash of 2000, this paper proposes that a lightweight globally focused protocol-based community can enable a self-regulatory function on behalf of the ICO market.

1.1. Assumptions About the Industry

This paper assumes that a decentralized capital market has already formed around ICOs. Because of the formation of this capital, the paper asserts the following axioms:

1.1.1. Is Capable of Self-Regulation
Section 3.4 covers a number of industry self-regulatory mechanisms including discussion forums, online chat groups, prediction markets, ico ratings agencies etc. that enable decentralized intelligence to function properly. However, this paper also asserts that when key information is hidden, obfuscated, changed abruptly or simply misrepresented, these agencies of decentralization are not able to properly perform their functions.

1.1.2. Has Prematurely Decentralized Capital
At the moment, the ICO market is prematurely attempting to decentralize venture capital by enabling nonprofessional venture investors to invest in emerging companies and projects. This is premature because the industry has not solved fundamental problems of trust-at-a-distance including issues of transparency and disclosure that would allow decentralized investors to fairly assess investment opportunities.

1.1.3. Needs Self-Regulation
We assert that national regulators will either perform fast bans on ICOs such as was seen in China and South Korea, or much slower actions that will not sufficiently benefit the currently overheated market.

1.1.4. Is Growing and Maturing Quickly
We further assert that decentralization of capital markets will continue and grow, not just in terms of total capital deployed, but also in terms of new types of institutional capital entrants including traditional Venture Capital firms and Family Office class investors. With the growth and maturation of this industry, we also predict ICOs that raise much more capital, including the first billion-dollar ICO, possibly from an organization with substantial existing business. In order to handle the scale of capital, new mechanisms will be needed.

1.1.5. Decentralized Self-Regulation Can Work
This paper assumes that the eventual steady-state will be decentralized industry self-regulation through many mechanisms including ICO ratings agencies, watchdog organizations, online discussion forums, futures markets etc. The IGF-1 disclosure standard is proposed as a structure that can increase the effectiveness of such decentralized mechanisms.

1.1.6. Multiple Blockchains Will Support ICOs
If there were only one blockchain for ICOs, then an on-chain mechanism for implementing governance would form more rapidly. Because there are multiple emerging blockchains that support ICO mechanics, the need for a protocol-based standard arises. This protocol could eventually form the basis for on-chain governance solutions implemented independently across each blockchain.

1.2. This Paper Proposes
This paper proposed three concrete steps to industry self-regulation:

1.2.1. A standard ICO filing protocol
The proposed protocol, called IGF-1 can be seen as an extension to or a structured format for an ICO white paper to ensure disclosure of key information for investors.

Included as part of the protocol are:
1) A data format including required information to be filed
2) A mechanism for amending the IGF-1

1.2.2. A public registry
The public registry enables ICOs to be vetted by investors. This could be implemented on a blockchain to ensure immutability and to reliably time-stamp and identify registrants, but it can also be implemented as a centralized database. Centralization would make the registry more vulnerable to hacking attacks and so eventual on-chain implementation of the registry would be desirable.

2. Enforcement

2.1. Why Would Token Sellers Agree to File?
People who sell tokens have no intrinsic motivation to file disclosures. This is why industry agreement is the lynchpin of producing enough peer pressure on token sellers to voluntarily file. We believe that token buyers can apply significant pressure by withholding token purchase from organizations who have not filed the proper disclosures. This pressure can be done by winning agreements with relevant organizations such as branded capital, ICO marketing platforms, ICO technical platforms, ICO ratings agencies and the like.

2.2. How Do We Ensure Compliance With Disclosed Information?
The first line of defense in all cases is the role of a custodial organization. One of the necessary disclosures in IGF-1 is a declaration of the custodial chain for the use of proceeds. Organizations who sell tokens without a robust custody chain should not be able to raise significant amounts of capital in a mature token selling environment. A custody chain consisting of token buyers sending Ether tokens to a founder’s private wallet should not be considered robust and
professional token buyers should be informed about such malpractices. Improvements in the industry around custodial standards will be essential for improving protections for token buyers.

2.3. What are the Consequences for Breaching Agreements?
Having a time stamp and secure identity associated with token filing and registration of IGF-1 enables token buyers to have a public paper trail. This paper trail causes token sellers to accrue legal liability associated with any divergence from their public statements not covered by an approved amendment. Having such a paper trail not only increases the possibility of civil liability, but government federal enforcement agencies can also scrutinize these filings to facilitate criminal investigation and prosecutions. Having time-stamped filings with provable identities and a formal amendment process facilitates both civil litigation as well as criminal prosecution of token sellers engaging in fraudulent financial activities.

3. Problem

3.1. Problem Statement
The ICO market is overheated and weak de-facto standards are preventing the market from realizing its full potential and creating risk of collapse.

3.1.1. Overheated Market
As of June 17th 2017 1.3B USD had already been raised in 2017 in token sales\textsuperscript{2}. CoinDesk ICO Tracker shows the all-time amount raised to be over 1.6B\textsuperscript{3} Already several problems have been seen including a $8.4 million dollar “hack” on the Veritaseum crowd sale\textsuperscript{4}. More recently on Friday September 22, Dragon ICO launched a 500M ICO in Macau. The scale and speed of capital being deployed in this market is significant.

3.1.2. Weak Standards
Present-day de-facto standards in ICO include the publishing of a white paper and a web site. They also include sending of cryptocurrencies like Ether directly to the private wallets of founders. These so-called standards are rife with deception and outright fraud. Another standard includes the use of insecure chat rooms like Slack which are vulnerable to phishing attacks.

3.2. The Economics of Decentralized Capital Markets

3.2.1. Free Riders on Trust
The free rider problem is a market failure that occurs when people take advantage of being able to use a common resource, or collective good, without paying for it\textsuperscript{5}. One of the inherent problems with a decentralized market is the emergence of free riders. The common resource that free riders are exploiting right now is trust in cryptocurrencies.

3.2.2. The Tragedy of the Decentralized Commons

\textsuperscript{2} M. Arnold--Financial Times: Tech start-ups raise $1.3bn this year from initial coin offerings
\textsuperscript{3} CoinDesk https://www.coindesk.com/ico-tracker/
\textsuperscript{4} M Bamburic--Betanews Veritaseum cryptocurrency loses $8.4 million in ICO hack
\textsuperscript{5} Free-Rider Problem Investopedia (}
It may be tempting for well-positioned investors to take a libertarian, *laissez-faire*, or even simply decentralized view of capital markets--let the buyer beware. Or it may be that the best investors in the space are simply too busy making money on extremely well qualified opportunities that they don’t have the time to worry about investors other than their Limited Partners. While this is an understandable position, the consequence of inaction by individually rational actors creates a significant externality that damages the shared substrate of commerce. This is often referred to in decentralization literature as the “Tragedy of the Commons”

In G. Hardin’s essay *Extension of the Tragedy of the Commons* he cites: “With Adam Smith's work as a model, I had assumed that the sum of separate ego-serving decisions would be the best possible one for the population as a whole. But presently I discovered that I agreed much more with William Forster Lloyd's conclusions, as given in his Oxford lectures of 1833. Citing what happened to pasturelands left open to many herds of cattle, Lloyd pointed out that, with a resource available to all, the greediest herdsman would gain—for a while. But mutual ruin was just around the corner. As demand grew in step with population (while supply remained fixed), a time would come when the herdsmen, acting as Smithian individuals, would be trapped by their own competitive impulses. The unmanaged commons would be ruined by overgrazing; competitive individualism would be helpless to prevent the social disaster.”

While experts in decentralization often cite Adam Smith’s “invisible hand” (and also reference his work when describing cryptographic tokens as “rent-seeking”), a collection of individually rational actors historically have harmed their own interests by failing to manage externalities.

The sad reality is that most people who are in a position to act are too busy making money and acting in their own limited self-interest to care about the market as a whole.

### 3.2.3. Measurable Externalities

Buchanan et al. defined externality in economics as the “cost or benefit that affects a party who did not choose to incur that cost or benefit”. The quantification and measurement of an externality is a basis through which a market can be organized or reorganized. For example, the concept of capping and trading carbon emissions as a means of creating a market for polluting emissions is a well-known market reorganization around an externality that predated the emergence of cryptocurrencies.

An important theme in reorganizing a market is enfranchisement. The existence of a measurable externality is correlated with the existence of a free rider. For example, the case of Carbon cap and trade shows that carbon emitters are exploiting the common resource of the atmosphere and dumping into it.

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6 G. Hardin Extension of Tragedy of the Commons *Science*. AAAS. 162 (3859): 1243–1248. [PMID 5699198](http://science.sciencemag.org/content/280/5364/682.full).

7 A. Smith An Inquiry into the Nature and Causes of the Wealth of Nations (March 9 1776)

This paper asserts that the abuse of token sales is an externality created by free riders. It further asserts that the abuse of token sales is a quantifiable and measurable externality, and that a decentralized mechanism to address this can be established in order to reorganize this market.

3.3. Symptoms

3.3.1. Criminal Enterprises
Chainalysis estimates criminal losses just in 2017 to be $225M USD\(^9\). This includes the widely prevalent spear-phishing attack, but also outright fraudulent schemes and hacks. Not only is there a loss of investor capital, but direct financing of professional criminal enterprises.

3.3.2. Criminals in ICOs
Beyond the darkweb and hacker groups, several well-known ICO operators have been linked to convicted criminals including the $500M Dragon ICO out of Macau which has been linked to convicted triad mobster\(^10\). Another case is the $100M Lydian Coin ICO famously promoted by Paris Hilton which is connected to another convicted violent criminal\(^11\).

3.3.3. Garden-variety opportunists
While outright criminality is still uncommon, the vast majority of ICOs are led by inexperienced founders who would otherwise be unable to raise money from professional venture capital. While to some extent the democratization of venture capital is a laudable aim, we have yet to successfully solve problems of trust-at-a-distance and so the current atmosphere of sending Ether to private wallets is premature.

This paper does not propose a solution to hacking, but proposes disclosure standards that may help with industry self-regulation and the proper flow of capital to maximally incentivize value-adding project.

3.4. Role of National Regulators
The sale of cryptographic tokens has created new flows of capital into early stage companies including the concept of an Initial Coin Offering (ICO). The obvious analogy that an ICO is like an Initial Public Offering (IPO) falls short in many ways, including the shareholder rights conferred to holders of public equities. In addition, the Securities and Exchange Commission (SEC) provides regulatory protection to public investors under its mission is to protect investors; maintain fair, orderly, and efficient markets; and facilitate capital formation.

3.4.1. National Regulatory Activity

Although the SEC has recently published a report on their investigation of the DAO\(^\text{12}\) and has already begun enforcement actions\(^\text{13}\), the token market remains disordered and capital distributions continue to misalign stakeholders.

3.4.2. Speed of Enforcement Actions
Based on the enforcement actions and investor alerts\(^\text{14}\) to date of the SEC, several egregious cases have already been pursued and there are more enforcement actions to come, but speed of SEC regulation seems unlikely to close the gap in market efficiency in the near to mid-term.

3.4.3. China
China has placed an outright ban on ICOs including a requirement for previously launched ICOs to return capital to investors\(^\text{15}\). They have also begun a crackdown on exchanges. Without self-regulatory action, more national regulators may begin to ban ICOs or even criminalizing cryptocurrencies.

3.5. Results of dysregulation
The problem stated succinctly is that the “Wild West” atmosphere of token sales is unsustainable and unless the industry takes self-regulatory action several adverse outcomes may occur:

3.5.1. Loss of capital
The capital available for expanding the value of the industry will continue to be subject to entropy and the total value creation in the industry will fall short of what is possible. Savvy investors may feel that the market is working as intended, and that unsophisticated investors deserve to lose money. While this is a valid moral position, it means that the percentage of money allocated towards worthwhile projects will decrease.

3.5.2. Scams will increase
Emboldened by the success of other scam artists, more scams and hacks will appear.

3.5.3. Industry reputation will fall
Thanks to sites like Silk Road and AlphaBay, cryptocurrency already has a negative reputation as a haven for money laundering, terrorist financing, government bribery, drug dealers and human traffickers. The US Congress has already entertained legislation against


cryptocurrencies\textsuperscript{16}. Although outright criminalization is unlikely, adoption of tokens by the early majority of adopters can be hampered by the reputation of our industry.

3.5.4. A bubble will form, then collapse
A secondary effect of all of the above will be the formation of a liquidity bubble and its subsequent collapse. The fantasy that there is a bottomless appetite for tokens in the public market will be curtailed by these same masses being repeatedly deceived by a combination of scam artists, pump-and-dump groups and simply more sophisticated investors. Recovery from a crash in the markets could take years, especially since the value of base cryptocurrencies like Bitcoin and Ether (like all modern currencies) dependent on full faith and trust in the currencies themselves and their stewards.

3.5.5. Recovering from a crash could be difficult
There are already detractors who are comparing cryptocurrencies to the mania about Tulips that swept Holland\textsuperscript{17} in the 1600s. With this mindset, buyers of cryptocurrency do not even get a tulip in the end, so the natural value of Bitcoin, for example, should be zero. With this mindset, if Bitcoin value (for example) crashes, it may be difficult to recover. Despite the existence of “HODLers”\textsuperscript{18} Bitcoins are not immune to liquidity panics, a phenomenon that has happened with many fiat currencies including the “run on the banks” that triggered the Great Depression in the US.

3.5.6. National regulators may become more aggressive
The SEC will not be influenced by the creation of an industry self-regulatory organization, but if the organization is successful, a decentralized autonomous self-protective investor protection mechanism could decrease the need for SEC interventions. As it is, China has already placed a nationwide ban on the practice of ICO and has pursued enforcement actions on exchanges.

4. Solution
This paper defines a protocol for organizing decentralized financial markets, and proposes a protocol-based collective to govern ICOs.

4.1. Scope
The gap between today’s ICO and an IPO is very large, and making an ICO more like an IPO is explicitly not the intention of this proposal, nor is it considered to be a meaningful goal. The scope of this paper is to define a standard or protocol for certification that is focused on measurable and enforceable structures for custody and distribution of tokens and proceeds involved in token sales.

\textsuperscript{17} A. Hern "Bitcoin hype worse than 'tulip mania', says Dutch central banker", \textit{The Guardian}, 4 December 2013.
\textsuperscript{18} GameKyuubi Bitcoin Forum (December 18,2013) I AM HODLING
4.2. Explicit Non-goals
This proposal specifically relates only to governance in the context of token presale and post sales, custodial chain and mechanisms for distribution of the proceeds.

This proposal explicitly does NOT address these issues:

4.2.1. Ratings
the organization explicitly does not exercise judgement about what ICOs are “good” or “bad” either from a business and technical diligence perspective nor from a moral perspective. Therefore the IGF will not participate in any system of scoring or rating ICOs. If a company issues an IGF-1 disclosure in which 100% of ICO proceeds are used to fund a dance party in Ibiza, the IGF will not comment on or disapprove of the registration. The goal is to provide transparency and disclosure as well as execution of the custody chain, and in doing so, investors can make their own decisions without being tricked or defrauded.

4.2.2. Lobbying
another explicit non-goal is lobbying of national regulatory agencies. Although we expect that the rise of industry self-regulation will provide a positive signal to national regulators, this organization in no way will take an interest in lobbying or petitioning on behalf of the industry. We leave this class of activity to industry organizations such as the Global Token Association.

4.2.3. Governance of code updates
the term governance in distributed systems is most famously addressed by Tezos which governs code updates, code forks and blockchain forks. This paper does not address the governance of code updates. One of the fundamental ways that stakeholders can be misaligned is in the structure of incentivization and how that scales. For example, Bitcoin has a problem with incentivization because of the unexpected effect of ASIC centric mining. So although these are extremely important topics for decentralized organizations, especially ones based on open source blockchain implementations, it is outside the scope of this work.

4.2.4. Corporate governance
including broader topics like board structure, equity, shareholder rights that don’t relate to distribution of ICO proceeds are also outside of the scope of this proposal.

4.2.5. Diligence on quality of business or technology
we do not propose to solve the problem of diligence of business opportunities from the perspective of business planning, technology, traction, market opportunity, team, idea or any similar form of evaluation. We feel that the capital markets are already addressing these questions analytically.

4.2.6. National regulation
The IGF explicitly and scrupulously avoids overlap with the roles and requirements of national regulators. It is an industry self-regulatory body and as such it may rapidly provide retail investor protection and capital formation benefits, but the standards proposed are designed to be extra-governmental and not enmeshed in national requirements. This organization is global in nature.
Although these are all significant problems related to the fundability of a given organization, we feel that attempting to also address these topics is outside the scope of this organization’s charter. We are sensitive to the need to fundamentally decentralize the global capital markets and we plan to do so through a minimum viable protocol. As such philosophically we would like to minimize centralization of functions that may be highly variable including judgement about what is a good investment.

4.3. Centralized Regulatory Systems
Before discussing centralized and decentralized regulatory systems, it’s important to note that decentralization is not a black or white issue—systems can be partially decentralized. This is well characterized by the creation of the “Nakamoto Coefficient” by Balaji Srinivasan\(^\text{19}\). With that said, systems display centralized or decentralized tendencies.

The existence of multiple providers under the right conditions forms a marketplace which to some degree decentralizes the provision of that service through competition, which produces a measure of self-regulation.

Several industry regulatory systems already exist for token markets including

4.3.1. National Regulators:
National regulators have an exceedingly important role to play in ICO markets, and the IGF in no way seeks to supplant or usurp the authority of such bodies. The IGF is built on the premise that industry practitioners working together to form best practices and standardize these in ways that increase an improve investor protection and capital formation enables a healthier relationship between the industry and government based regulatory agencies.

Government regulatory agencies may be quick to act in the form of blanket banning of ICOs as has happened in China and South Korea, or they may take a more nuanced approach that takes longer to implement. The more nuanced approaches are based on a significant history of legal precedent, and therefore may carry with it unintended consequences that may take legal action to sort out.

Because the more nuanced approach may take time to play out and due to the rapid overheating of the ICO market, this paper calls for industry self-regulation.

4.4. Decentralized Regulatory Systems

No discussion of this topic would be complete without referencing the existence of important services that also serve to regulate the token capital markets.

4.4.1. Branded Capital
Branded capital including famous venture funds and blockchain funds should itself perform a self-regulatory function, specifically that each organization that supplies capital should perform

\(^{19}\) B. Srinivasan Medium (July 27 2017) Quantifying Decentralization
its own diligence function according to its own proprietary methodologies and criteria, and since these organizations typically function in a presale, their token buying behavior sends a signal to the market that professional diligence has been performed in a given token sale.

4.4.2. Prediction markets
Prediction markets such as Augur\(^\text{20}\) will provide a strong distributed self-regulatory function in token sales. The proposals in this document will not overlap the functionality of such services. There may be meaningful ways in which the functions of this distributed organization overlap with those of a futures market, but this is a topic which is best addressed once the significant players in crypto futures activate their services.

4.4.3. Discussion Forums
While it’s important that the community can respond to token sales and evaluate risks together, forums such as Reddit, Steemit and Bitcoin Talk are already providing basic discussion forum capability for cryptocurrencies (albeit not specifically targeted at token sales). Discussion Forums do provide a decentralized self-regulatory function, however without the existence of standards described in this paper, discussion groups tend to be a mix of promotion by token loyalists/owners and uninformed opinions.

4.4.4. Token Buyer Chat Groups
Chat and messaging groups such as Telegram, Slack, Wechat and others are able to organize intelligence and distribute diligence insights and signals that increase the efficiency of capital markets.

4.4.5. ICO Ratings Agencies
An increasing number of ICO ratings agencies perform various diligence functions on behalf of the industry.

4.4.6. ICO Advisory firms and Individual Advisors
While not inherently decentralized, the large number of ICO advisory firms to some extent decentralizes this industry function. ICO Advisory firms have a significant role to play in this ecosystem. Initially these firms are providing a host of technical and marketing services but as the market matures, increasingly the focus will be on underwriting and book-building. Because of the commercial nature of these advisory firms, expecting them to provide industry regulating functions is optimistic.

4.5. The Role of Decentralized Regulation
The ICO Governance Foundation, or IGF, does not seek to supplant any pre-existing or even future government or self-regulatory entity or service. The explicit role of the IGF is the development of standard protocols that should enhance the ability of decentralized regulatory functions.

\(^{20}\) J. Peterson and J. Krug Augur: [a Decentralized, Open-Source Platform for Prediction Markets](https://github.com/entry-exchange/augur)
5. Proposal

This document proposes the establishment of

5.1. Protocol and Public Registry
The proposed registration protocol, called IGF-1 involves the filing of a structured document into a public registry that enables organizations seeking to raise money in an ICO to disclose and file all pertinent information about the governance and use of proceeds associated with their token sale.

6. Enforcement

Centralized regulators have had historically great power with respect to enforcement of regulations including the ability to use force to arrest and incarcerate the most egregious offenders. Clearly decentralization will have to use different mechanisms to ensure compliance.

The formation of an industry self-regulatory protocol requires voluntary participation.

6.1. Custodianship
In the case of token sales, custody becomes the central topic of ICO governance because it provides control, adjudication and the ability to properly structure incentives that align token investors with creators of protocols, networks and markets. The flow of the use of proceeds in a way that maximally incentivizes value creation while reducing free-riding is the central topic of this paper.

In order to establish custodianship, multiple problems must be solved including

6.1.1. Form of custodianship
The explicit form of custodian, whether it be an escrow organization, board of directors, a nonprofit entity, a set of supervisors, a decentralized voting organization needs to be established.

6.1.2. Governance of custodianship
Who are the parties responsible for governing custody and how are they seated and unseated, and what rights and responsibilities are conferred?

6.1.3. Plan of custodianship
Documentation of the use of token sale proceeds should inform the custodians, and this plan should be clear enough to be executed with minimal ambiguity. The IGF-1 is intended to be the basis for this plan.

6.1.4. Amendment of plan
A clearly defined mechanism for amending the IGF-1 needs to be in place in order for organizations to be able to adapt to changes in their original plan.

6.2. Legal Liability
The existence of a formal disclosure protocol produces a set of public declarations about a token sale that have several key properties:

1) A time stamp
2) An identity

Because these statements are registered in the above fashion, any divergence from these filings not specifically addressed by a formal process of amendment produces legal liability for the individuals and organizations associated with the token sale, custodial chain and subsequent compliance with the statements made in the filing.

By producing a clearly documented paper trail, the system of self-registration proposed in this document enables token buyers to exercise their legal rights to file suit in the case of tokens sold under false pretenses or deceptive practices associated with token sales.

6.2.1. Civil Liability
Token Sellers who have diverged from the promises made in public filings accrue civil liability. Token buyers can sue on the basis of any deception of divergences from public declarations made in IGF-1.

6.2.2. Criminal Liability
In addition to accruing civil liability, public filers of IGF-1 create a paper trail that can be used by federal prosecutors to bring criminal enforcement actions against those participating in financial deception. There are a host of federal enforcement agencies and pre-existing criminal laws in all countries that can take enforcement actions facilitated by information provided in public filings.

7. Participation in the IGF
Organizations may choose to participate in this in multiple ways including:

7.1. Forms of participation

7.1.1. Standards Formation and Maintenance
Organizations may choose to participate by offering amendments to the IGF-1 standard itself or to the registration process. This process requires significant definition as there is not an established governance process for formation or update of the IGF-1 specification itself.

7.1.2. Voluntary Self-Registration
An organization performing a token sale may volunteer to file an IGF-1

7.1.3. Participating Investor
An investment organization or individual may choose to participate by requiring or at least recommending that token sellers file IGF-1 as part of the criteria for investment.
7.1.4. Participating ICO Platform
ICO platforms may also participate by insisting that ICOs that deploy on their platform file IGF-1.

7.1.5. Participating Exchanges
Exchanges may also request or require IGF-1 filing as a precondition for listing on the exchange. This may require a separate standard filing or schedule specifically targeted to the needs of exchanges.

7.2. Motivation
Any decentralized network needs to establish a proper incentive structure for participation.

7.2.1. Centralized Motivation
By “centralized” motivation what we mean is that organizations selling tokens may be motivated by participating Investors, ICO Platforms and Exchanges to list IGF-1, and the more the industry insists on IGF-1 the more likely token selling organizations will seek to file.

Initially, having as established standard for governance disclosure may also help to distinguish better governed ICOS from ones that are poorly governed. The ability for token sellers to distinguish themselves on this basis many better enable them to access capital and other service providers.

7.2.2. Decentralizing Motivation
One important idea is the notion that the motivation for compliance can be an inherent part of the infrastructure of decentralization. At some point it is likely that vast portions of the ICO process will be performed on-chain. In this envisioned future, the process of filing and registration as well as custody and distribution of proceeds as well as governance of that process will be performed on-chain. At this juncture the exact mechanisms for an on-chain fully decentralized platform for the IGF-1 protocol and indeed for ICOs is as yet undefined.

8. Purpose of IGF-1

The IGF-1 protocol governs a number of topics, and the mindset behind it is to help investors understand simply the following:

1. Who gets paid
2. By whom
3. When and under what circumstances
4. Why
5. How do they get paid?

8.1. Follow the money
Specifically, the notion of who is the entities that are being remunerated, this could include a for-profit company or companies including the service providers. With respect to the “by whom” question it is important to disclose the governance structure that has the decision making
authority to control the flow of capital resulting from a token sale including the private wallet keys and bank accounts. In the best practice cases a governing body within a nonprofit foundation may enable the most judicious and globally aligned set of custodians. When can be seen as a chronology, for example token vesting dates or lockup dates, but they can also be seen as conditional, such as the achievement of a milestone. Why is intended to correspond with the value to the mission of the organization—any distribution of token sale proceeds disconnected from the achievement of the mission of the collective or the individual component parts deserves to be questioned. How is intended to be the establishment of mechanisms that disambiguate the distribution of token sale proceeds for example smart contracts or legal agreements, vesting structures (which also may govern when).

8.2. Registration Document Topics
1. Token Balance Sheet
2. Token Sale Use of Proceeds
3. Custody Chain
4. Filing Amendment Process
5. Post-sale Transparency and Reporting

9. Protocol

9.1. Protocol Definition
By protocol, the paper defines a form of public filing which provides a schema for public disclosure of governance topics. A broader definition of protocol would define:

- IGF-1 Schema
- Registration process
- Review Process
- Amendment Process

At this point, the focus is to define the public filing IGF-1. Further definition of the protocol including the proper handling of the registration, filing and listing process will follow.

The rest of this part further expands the intention behind each of the topics in the IGF-1 to further specify the intent of the IGF-1 data schema.

10. Public Registry
During an Initial Public Offering of Public Equities, the US Securities and Exchange Commission requires the filing of certain structured documents such as Form S-1. The S-1 provides a high level of investor disclosures and thus confers a high degree of protection to
public investors. However filing an S-1 with the SEC is an onerous task, the Office of Management and Budget (OMB) estimates the average S-1 burden to be 972.32 hours. 21.

This paper does not seek to burden ICO seeking organizations with a large cost, nor does it seek to supplant the regulatory function of the SEC.

What it does seek to do is incentivize token buyers to buy tokens from organizations with higher quality governance standards (and conversely avoid ones with lower quality governance), and to incentivize organizations selling tokens to implement governance best practices—and if not to disclose where they are deliberately distancing themselves from best practices and to explain why.

This paper proposes the creation of a public registry of IGF-1 submissions not unlike the EDGAR database for the SEC.

11. Best Practice Token Distribution Mechanisms

11.1. Token Vesting
Establishing a mechanism where founders, executives, operators all receive tokens on the basis of a vesting schedule pending their continuous service to an organization is a welcome best practice in ICO Governance. This would require named adjudication since a smart contract is unable to assess or negotiate special conditions where named stakeholders have left the service of the company or collective and what circumstances continued service under changed circumstances (for example moving from a full time executive capacity to a part time advisory role) would terminate or continue vesting.

11.2. Token Lockups
Timed lockups for investors, founders and even company reserves can increase investor confidence about disciplined use of proceeds. These can often be mediated by smart contracts.

11.3. Milestone-based release
If a milestone-based approach is being used, then establishing specific recipients responsible for those milestones and appropriate and justifiable token release based on those milestones is a best practice.

11.4. Bounties
An emergent process for distribution can include bounty-based incentivization. This can include more radically decentralized schemes for adding value to networks and covers a wide variety of potential actors. One unique precedent for this is the Tezos self-amending ledger and the ability for committers to attach invoices to code pull requests, which pay the developer upon acceptance. Another construct might be to establish test cases which could result in the payout of bounties. Bounties do not need to be restricted to code check ins and could potentially cover things as wide ranging as marketing partnerships or business development.

21 Source: Wikipedia entry on S-1
12. Filing Amendments to IGF-1

12.1. Dynamic Organizations
Recognizing that many token sales are used to fund organizations that are start-up-like in their dynamism and that conditions change, this provision allows for members of the organization to petition for an amendment to the IGF-1.

12.2. Acceptance of Amendment
Organizations should pre-disclose the requirements for IGF-1 amendments to be passed that change the nature of the flow of proceeds whether they be fiat currency, the ICO’s own token or tokens such as Ether raised in an ICO.

12.3. Notification of Amendment
We presume that all people and entities who hold tokens or cryptocurrencies associated with a token sale will be appropriately notified about the start of an amendment process, will be empowered to comment on the contents of amendment and will be alerted to any resulting changes resulting from an amendment process.

13. Certification of Custodians
The IGF will certify custodial organizations. ICOs will then be able to enter into an ICO Custodial Agreement with an approved and certified custodial organization.

The basis for certification of custodial organizations include high standards in:

13.1.1. Cybersecurity
Particularly cybersecurity related to handling of cryptographic tokens.

13.1.2. Token Accounting Systems
that enable transparent and auditable flow of ICO proceeds pursuant to compliance with IGF-1 filings.

13.1.3. Smart Contracts
that govern the custody chain and distribution of ICO proceeds as well as establish operations on behalf of token selling organization within the umbrella of the meta-organization. These operations would be carried out by

13.1.4. Supervisory boards
that are chartered with the adjudication of the distribution of ICO proceeds. Similar to the board of directors of a corporation who allocate share options and ownership of the corporation to stakeholders, The meta-organization would handle the cryptocurrency wallets or bank accounts associated with the ICO custodial services and transfer proceeds to the organizations and individuals in a fashion that incentivizes network participants to maximally add value in the manner described in their white papers and other filings. The
supervisory board would consist of one seat from the meta-organization, one independent agreed upon by both the meta-organization and the fundraising entity and a third supervisor nominated by the entity and approved by both the other seats. These three supervisory board members would approve all distributions of proceeds whether through the mechanism of a smart contract, or through direct transfer to an organization or individual.

13.1.5. Background Checks  
Background checks for the registered leadership teams of the token selling organizations will be carried out by the custodians as a precondition for execution of the ICO Custodial Agreement.

14. The IGF Organization  
The IGF Governance Foundation is proposed to be housed within a nonprofit organization. The nonprofit would hold the intellectual property including this white paper and the resulting specifications.

14.1. Mission  
The mission of the foundation is the establishment of a protocol-based global community that performs a self-regulatory function for decentralizing capital markets.

14.2. Action  
The Foundation acts through the development and establishment of the IGF protocol. This can include:
   1) Protocol standards work
   2) Working with industry best-practices organizations
   3) Convoking events to promote the topic of governance and collaboration on governance
   4) Marketing and popularizing the IGF standard(s)
   5) Forging agreements with other organizations to use the IGF standard(s)

14.3. Organizational Governance  
The following framework is intended to elaborate the as yet unsolved structure of the IGF itself. What we are working on is finding appropriate organizational structure and leadership as well as a membership structure which will be part of a future update to the paper. At the moment we will document our current assumptions and topics we feel need to be addressed, all of which are subject to change.

   1) Foundation legal jurisdiction and tax-exempt status: during the initial 90 days in 2018, we aim to work with our outside legal counsel to determine the ultimate legal jurisdiction for our foundation. If we decide for the USA, then we may seek a formal IRS tax exemption to enable the members to deduct their contributions. Although some foundations may qualify as a “charity” under Section 501(c)(3), most foundations seek an exemption under Section 501(c)(6) (business league).
2) Membership Classes:
   a. Founding Members
      i. Special Voting Rights
   b. Institutional Members
   c. Service Providers
   d. ICOs – with Market Cap over $1B
   e. ICOs – with Market Cap between $500M and $999M
   f. ICOs – with Market Cap up to $499M
   g. Membership term
   h. Membership fees, if any
      i. Limits on number of members in a class
   j. Criteria for new members for classes with unlimited members
   k. Selection method if the number of class members is limited
      i. Board decision
      ii. Class member decision
   l. Board representation
      i. Board Seats and Observer Seats
      ii. Class has fewer Board seats than class members
      iii. Class has one seat
   m. Board members of a class
      i. Voting
      ii. Non-voting
      iii. Diversity requirements (i.e. limit the number of Board members from a single organization)
   iv. Termination
   v. Quorum
   vi. Compensation
      1. Generally none
2. Reimbursement

vii. Frequency of Board meetings

1. Quarterly
2. Semi-annual

viii. Special votes on certain issues

1. Creating new classes
2. Changing bylaws effecting method of selecting new class members
3. Changing bylaws effecting number of class members
4. Changing project license
5. Changing trademark policy

n. Committees

i. Standing: Audit/Technology/Trademark Use/Legal

ii. Special

o. Special Voting Rights of Class Members

i. Method of selecting members

ii. Changing bylaws effecting number of class members

iii. Changing bylaws effecting method of selecting new class members

iv. Changing project license

v. Technical committee/user committee

vi. Quorum

2. Board Chairman, Board Vice Chairman, and Board Composition, and Foundation Officers

a. Board Executive Chairman – Miko Matsumura [permanent position]
b. Board Executive Vice Chairman – Michael Golomb [permanent position]
c. Board Executive Vice Chairman – [reserved for founding member 1]
d. Board Member – [reserved for founding member 1]
e. Board Member – [reserved for founding member 2]
f. Board Member – [reserved for founding member 3]
g. 3 independent board members from non-profit field
h. 1 Board Seat for Executive Director
i. Executive Director
j. Executive Chairman
k. CFO
l. Use of third party service providers to fill these roles

3. Technical Committee: Some projects have a technical committee which manages the project. The technical committee can be managed by the Board or be independent within the realm of technical decisions about the project. The relationship between the technical committee and the Board is one of the most challenging in developing the governance for a foundation because of the frequent concern by the technical committee to maintain a “merit” based approach to technical decisions.
   a. Is the Technical Committee independent and, if so, in what scope?
   b. How many members on the Technical Committee?
   c. What is the term of members of the Technical Committee?
   d. How is the Technical Committee selected?
      i. Elected by community
      ii. Appointed by Board
      iii. Self-selected after initial appointment

4. User Committee: Some projects have a user committee which manages certain aspects of the project and works with the Technical Committee. The user committee can be managed by the Board or be independent within its scope.
   a. Is the User Committee independent and, if so, in what scope?
   b. How many members on the User Committee?
   c. What is the term of members of the User Committee?
   d. How is the User Committee selected?
      i. Elected by community
      ii. Appointed by Board
      iii. Self-selected after initial appointment

5. Project license & contribution policy: Some foundations believe that the license for the project is an important strategic choice and include it in the bylaws with special requirements for changing it.

6. Trademark Use Policy: Will the Foundation be adopting a trademark? Will the trademark be used by third parties?
7. Other Policies: The Foundation may need some additional policies depending on how the Foundation will operate. I am including a broad list:
   
   a. Antitrust Policy  
   b. Intellectual Property Policy  
   c. Code of Conduct for Foundation  
   d. Code of Conduct for Community (used for conferences and other events)  
   e. Class member policies (see sample policy from the OpenStack Foundation attached as Exhibit A)  
   f. Technical Committee Member Policy  
   g. User Committee Member Policy  

15. The Nonprofit Foundation

The scope of activities of the nonprofit foundation will be intentionally narrow and global in scope. Because of this, the organization seeks to establish standard protocols that are lightweight and applicable in all jurisdictions.

15.1. Filing Protocol and Registration

For the broad mainstream ICO, the meta-organization would seek to establish the de-facto industry standard for voluntary filing, the IGF-1.

15.1.1. ICO registration protocol

mentioned above. The primary goal of this program is not enforcement but transparency. The protocol format for registration would be maintained and versioned by the meta-organization.

The foundation would also maintain a

15.1.2. public repository of filings

and additional disclosure documents. The meta-organization would also maintain a versioned specification of the filing format based on an open specification steering process.

16. For Profit Service Providers

16.1. Certified Custodial Organizations

The IGF would identify, recognize and certify custodial organizations who can implement the IGF-1 custody chain. Certified organizations would have the technical competencies, trust and

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financial stability to act as stewards on behalf of the IGF community to manage and implement the standards within IGF-1.

16.2. Certified Audit Organizations
This paper envisions the need for IGF-1 compliance to be auditable, so the need for certified audit organizations as part of the for-profit service provider group is evident.

16.3. Certified ICO Platforms
ICO platforms that agree to having all ICOs voluntarily filing IGF-1 can receive certification.

17. The Future: On-Chain Governance
The formation of a protocol has significant meaning for those in the blockchain industry. The natural result of agreements on protocol are the formation of “on-chain” governance solutions including a blockchain based registry, as well as best practice tools that enable ease of transparent financial reporting and a host of solutions that help to automate the implementation of protocol-based solutions.

The IGF asserts that all of the following toolchain are a downstream emergent property of industry-wide agreement on standard disclosure protocols and in many cases may and are already emerging independently of such a protocol.

These can include:

17.1. ICO Filing and Registration Blockchain
Placing registration, filing and amendments on a blockchain is an obvious and natural next step for ensuring worldwide transparency of ICO filings.

17.2. Improved and Secure Identity Tools
One significant vulnerability of IGF filing is the possibility that a malicious party could file on behalf of a token sale in order to harm the sale. This is why improved identity tooling will be a natural next step for filing and registration, and the opportunity to establish implementation standards including cryptographic signing and identity attestation systems will strengthen the filing and registration system.

17.3. Token Sale Website “Widgets”
Many web site display advisors, pie charts and other nonstandard or de-facto standard disclosures. These displays are non-standardized and do not represent any standardized, confirmable or registered information.

17.4. Token Financial Reporting Software
Increasingly, token and hybrid financial reporting and transparency software will play a role in this ecosystem.
17.5. **Smart Contract Authoring, Debugging and Auditing Tools**

Use of pre-audited and tested contracts will be important for governance best-practice implementations.

17.6. **Smart Contract Monitoring Software**

Monitoring changes to contracts and activation of adjudication mechanisms.

17.7. **Smart Contract Adjudication Mechanisms**

Mechanisms like multisig interrupt and ways of moving contracts into arbitration will become best practices.

17.8. **Improved Wallet Security Protocols**

Multisig custodial wallets and protocols including process improvements will be needed

17.9. **Insured Wallets**

Vendors are working on cryptocurrency wallet insurance, this may play a role and be part of a disclosure such as IGF-1

17.10. **Decentralized and tokenized community**

This paper recognizes that an incentivized online community may be an essential component of a fully decentralized capital market. More reasoning about this topic is needed. =)

17.11. **ICO Rating Agencies**

ICO rating agencies may play a role in decentralizing capital markets. The problem of certifying one agency over another is unsolvable without compromising the neutrality of the IGF, so a different approach may be warranted. Perhaps an open registry of rating agencies and a fully decentralized “rating of rating agencies” could be a part of the incentivized community.

17.12. **ICO Discussion Forums**

Many existing discussion forums exist for evaluating ICOs including Bitcoin Talk. To avoid any perception of bias from the IGF, a fully decentralized rating and registration process for discussion forums may be needed.

17.13. **Oracles**

The role of futures trading markets in decentralizing global capital markets is undeniable. One possible mechanism for decentralizing capital is to use oracle services. Unfortunately providing a mechanism for pure neutrality in the use of oracles may prove to be complex, therefore perhaps a fully decentralized “rating of prediction markets” approach could also be part of an incentivized community.
References


18. Appendix A: Proposed IGF-2 Expanded Filing Topics

18.1. What is IGF-2
IGF-2 is a proposed “Expanded Filing” 27 point protocol which forms the scope of a future, more robust disclosure protocol.

IGF-2 is based on the following topics and

18.2. **IGF-2 Registration Document Topics**
The following 26 points below form the basis for the proposed IGF-2 filing protocol.

1. Mission, Goals and Objectives
2. Organizational structure & Leadership
3. Process for Amendment
4. Custody Chain
5. Open Source Reference Implementation Ownership
6. Open Source Community
7. Protocol Ownership
8. Trademark Ownership
9. Existing Business Operations
10. Promotional Activity
11. Jurisdiction
12. Founder/Employee Tokens
13. Company and Ecosystem Tokens
14. Advisory Tokens
15. Foundation Tokens
16. Presale Discounts
17. Currency Circulation Cap
18. Inflationary or Deflationary Currency
19. Fundraising Cap and Market Cap
20. Exchange and Liquidity
21. Token Lockups
22. Contract Audits
23. Security Procedures and Audits
24. Terms and Conditions
25. Distribution Allocations
26. Declaration of Risks
27. Background Check or Declarations
28. Statements of Risk

18.2.1. **Mission, Goals and Objectives:**
The filing organization should disclose the objective of the organization(s) raising capital. If there are multiple organizations involved such as the use of a nonprofit foundation, the missions of each organization should be declared separately. Mission statements can be very broad, however, the objectives of each organization should have measurable outcome milestones by specific dates in order to qualify as having good governance. A best practice may be for multiple organizations including profit and nonprofit to have a shared or common mission, to prevent misalignment. The statement of the mission is essential as it provides a way of reasoning about
the distribution of token sale proceeds. If proceeds do not support the mission, for example by incentivizing stakeholders to add value to the mission, it should be examined.

18.2.2. Organizational Structure and Leadership:
the filing organization should disclose the names of members of the leadership team and the organizational structure. If multiple organizations are involved the domicile and organization type (S corporation, C corporation, 501c nonprofit, Swiss Foundation) should be specified. In addition the leadership of each organization should be disclosed independently. Best practices in this case are organizations with experienced operational leadership in the domain areas related to the mission and objectives. In addition, the use of a nonprofit foundation for custody of ICO proceeds reflects an industry governance best practice.

18.2.3. Process for Amendment
Since it’s widely accepted that conditions change, the IGF-1 filing may require amendment after it has been filed. What are the conditions under which a future amendment would be accepted? The IGF has no opinions on what form of governance is appropriate for amending a given IGF-2, only to note that if IGF-2 can be amended by a single person or by self-interested parties misaligned with the mission of the organization, the filing itself would then represent a weak commitment to good governance. That said a variety of mechanisms including voting of token holders, pro-rata voting (by token ownership) or the role of named supervisors could all be best practices.

18.2.4. Custody Chain
The filing organization should clarify what organization(s) or individual(s) hold the private keys to the wallet where the proceeds are being sent, or in the case of purchase agreements using fiat currencies, the bank accounts. Since these documents are intended to be public filings, it’s possible for the organization in question to request anonymity of that individual in the public filing, and to have that individual’s name be replaced by a high level description of the person’s qualification to hold that responsibility. This should only be invoked if there is a concern for the safety of that individual. Best practices involve the use of a third party such as a foundation and in no case should a recipient of ICO proceeds own the private keys or control the bank accounts where ICO proceeds are sent. If a certified custodian is named here, please include contact information for that person for verification of the acceptance of that responsibility.

18.2.5. Open Source Reference Implementation Ownership
if there is a software component to the service provided, what components (if not all) are provided through an open source license, and which license(s) are offered for those components. Are there a reference implementations of the protocol? In addition, what organization(s) or individual(s) own the rights to these code bases? Are there Intellectual Property (IP) encumbrances on the code bases such as Patents. If so, the patents including provisional and pending patents must be disclosed. Best practices are for the open source reference implementation to belong to a nonprofit foundation.

18.2.6. Open Source Community
if there are open source components, best practices include disclosure about the size of the committer base and the volume of pull requests, total size of code base and person-years of
investment in the code base to date. The names and backgrounds of individual committers or contributors may also be disclosed here. While it may appear that having a robust community and

18.2.7. Protocol Ownership
If there is a protocol associated with the token selling organization, is this protocol published openly, who owns the copyright to the protocol, are there IP encumbrances on the protocol such as copyright, trademarks or patents. Best practices are for the protocol to be maintained by a nonprofit foundation, or by an open standards body. Proprietary intellectual property held by individuals or corporations reduces network or market stakeholders ability to influence the protocol and is therefore not a governance best practice.

18.2.8. Trademark Ownership
Are there trademarks associated with this token sale? If so who owns the trademarks? Best practice is for the trademarks to be registered and under the ownership of a nonprofit foundation. An example of poor governance was the emergence of “Bitcoin Cash” which was entitled to use the name “Bitcoin” because there was no trademark in place and no controlling organization that could enjoin them from using the name. Lack of a registered trademark invites confusion and free riding. Best practices include ownership of the trademark by a nonprofit foundation dedicated to the mission declared in the organization’s white paper.

18.2.9. Existing Business Operations
Does the organization selling tokens have any existing business operations? If so the organization should disclose the extent of those organizations, their incorporation dates and any pertinent business information about these organizations. A well governed ICO should have either a positive business track record or experienced founders and executives. Poor governance in this area would include a negative company history, bankruptcies, repeated company name changes or loss-making businesses.

18.2.10. Promotional Activity
Will the organization promote their token sale? If so the company must enumerate marketing activities it will pursue to promote its tokens. Are there any token giveaways? If so please disclose the rules or beneficiaries of such giveaways. Bad governance practices include heavy expenditures for marketing token sales, as this exposes the organization to SEC regulators as well as creates an undisciplined investment environment.

18.2.11. Jurisdiction
What is the domicile or geography of legal incorporation for the organization or organizations involved in the token sale? Use of tax havens and regulatory havens should be transparently declared, although not necessarily seen as a negative for token selling organizations.

18.2.12. Founder/Employee Tokens
What is the percentage of circulating tokens and maximum tokens are allocated to founders? What percentage to employees? What are the terms of allocation? Excessive allocations especially without milestone based or vesting based terms represent bad governance as it
decreases incentives for key stakeholders to deliver the milestones documented in the Mission, Goals and Objectives.

18.2.13. **Company and Ecosystem Tokens**
What percentage of circulating tokens and maximum tokens are allocated to company operations? What percentage are allocated to Ecosystem development? Best practices include careful consideration of the stakeholders in your ecosystem and proper levels of incentivization. Poor governance can include over or under-allocation of ICO proceeds unrelated to the delivery of milestones documented in Mission, Goals and Objectives. If the company does not have long term visibility into detailed milestones, a best practice can be to use a smart contract to lock up company or ecosystem tokens and release them to the company over longer time periods, such as three tranches over three yearly increments.

18.2.14. **Advisory Tokens**
What percentage of circulating tokens and maximum tokens are allocated to advisors? Name the advisors and amounts in question. What professional marketing, legal or advisory firms were involved in the token sale, and how were those compensated? Governance best practices involve clear disclosure of the stakeholders and any potential conflicts of interest.

18.2.15. **Foundation Tokens**
What percentage of circulating tokens and maximum tokens are allocated to a nonprofit foundation or foundations? If a foundation is involved please disclose the supervisory or director structure and name the individuals responsible for supervising or directing the foundation, particularly noting if there is overlap between the foundation supervisors or directors and any employee, advisors or founders. Use of a foundation whose mission aligns with the mission of the ICO fundraise as documented in the white paper or other filings is a best practice.

18.2.16. **Presale Discounts**
Filing organization will disclose amounts paid per token by every entity that purchased tokens before the public sale. Excessive discounts are part of Governance malpractice. Excessive discounting can signal a problematic pattern that appears to be a diligence proxy when instead it is just opportunism.

18.2.17. **Currency Circulating Caps**
What are the caps associated with tokens for sale? Are there any mining or is this a pre-mined currency? Governance best practices include clear disclosure about the total number of issuable currency units and the mechanism and timing through which more units enter into circulation.

18.2.18. **Inflationary or Deflationary Currency**
Is this an inflationary or deflationary currency. Please describe the mechanism for inflation or deflation expected. Best practice is simply to disclose the expected mechanism and timing for either inflation or deflation of the primary and any related currency.

18.2.19. **Fundraising Cap and Market Cap**
Is there a cap on the amount that will be raised in public sale? What are the expected total market cap of the coin upon release? Best practices include a rational
18.2.20. **Exchange and Liquidity**
Are there any agreements with exchanges to provide liquidity after the ICO? If so please disclose which exchanges have agreed to list your cryptocurrency and what the expected dates are.

18.2.21. **Token Lockups**
Are there any tokens that will be locked up or out of circulation in smart contracts or through any other means? If so, what is the expected timeframe of the lock ups, and which groups of token holders are subjected to which lock up period and what is the mechanism of lock up in each case?

18.2.22. **Contract Audits**
If smart contracts are used in the token sale, who audited the contracts?

18.2.23. **Security Procedures and Audits**
Please disclose what procedures are in place to secure the token sale. For example, please explain how users obtain tokens, and how security procedures to prevent common attack vectors such as Denial-of-Service, social engineering, chat channel spamming, domain spoofing or mimicry, social media accounts, man-in-the-middle attacks such as CDN are being implemented, and what are your organization’s procedures for securing and storing private keys,

18.2.24. **Terms and Conditions**
what are the terms and conditions associated with the token sale?

18.2.25. **Distribution Allocations**
disclose the total number of tokens in circulation and the expected distribution of those tokens post sale.

18.2.26. **Declaration of Risks**
The organization should use this section to declare any risks associated with achieving the mission objectives stated.

18.2.27. **Background Check or Declarations**
Have the key members of the executive team undergone background checks? Are there any disclosures, representations or warranties the organization would like to make about these individuals and what might come up in the course of a standard background check.

18.2.28. **Statements of Risk**
An enumerations of risks to the future value of the tokens similar to risk declarations in typical securities registration filings such as S-1.

19. **Appendix B: The Optimal ICO**
19.1. Overheated ICO Market
A blog post entitled “Optimal Token Sales” by Albert Wenger22 a partner at Union Square Ventures states:

“The most potential for trouble are token sales which are one-time, large (possibly even uncapped) and take place when minimal specification / technical work has been done. In these the risk of outright abuse is highest (e.g. team starts paying themselves above market salaries, lavish perks), as well as the risk of nothing of use ever shipping is highest also. This is of course why in the traditional venture model early rounds tend to be smaller. On the plus side, though the fact that a number of such sales have happened does provide a strong incentive for people to want to create new protocols. And a sale like this can finance all the work that is needed to create something quite complex.”

Mr. Wenger declares an optimal structure that mirrors the traditional Venture Capital approach of keeping initial fundraising small, and raise additional round upon attaining milestones. While this approach makes sense from the perspective of optimizing for delivery of promises made (likely the key problem with today’s ICO), the analogy of an ICO being like an IPO reverses this construct—by emphasizing the idea that a single very large round can and should be raised involving the broader public (whether accredited or unaccredited) in favor of more specialized investors who have diligence experience and have sat on many Boards of smaller companies.

19.2. Capitalizing Global Protocol-Based Services
In the current climate, the idea of raising smaller rounds, then raising larger ones later through token sales may not be practical. In the case of raising large rounds through ICO, this paper asserts that similar controls can be established through the custody chain—that is to say that if the use of the proceeds are controlled by a mission focused organization like a nonprofit foundation, this allows the funds to be released on successful delivery, thus allowing the public markets to fund “big ideas” but also providing a mechanism for the mission to be achieved in discrete incentivized steps. In extreme cases where the company that originally generated the token sale is failing to meet milestone expectations, the foundation can even allocate token sale proceeds to other groups who may have a better chance to fulfill the original mission obligations. If the foundation is holding the open source reference implementation as well as the protocol, it has the ability to pursue these alternatives without undue friction. While this represents an extreme scenario, the threat of being able to allocate token sale proceeds to other individuals or organizations better able to serve the mission, community and ecosystem named in the white paper can provide a strong incentive for execution and delivery on the part of the company and its leadership.

19.3. Governing large ICOs
This paper takes the approach that ICOs need not be issued repeatedly, in fact, the very nomenclature of ICO (“Initial” coin offering) implies that this instrument can only be deployed

22 http://continuations.com/post/161776542685/optimal-token-sales
Once. Of course we need not be stuck on the name, and we can call each round a “token sale” and be done with it. However, the establishment of a certain class of Global Public Utility through tokenization and public ownership may be benefitted by significant capitalization as long as strong governance mechanisms are established that enable capital to support these missions at scale and over the long periods of time it takes to achieve the mission. One important distinction between Venture Capital rounds and token sales is (depending on the listing of the token in an exchange) that in many cases, tokens have more consistent liquidity than private equities. For this reason, the migration of capital in large scale may be less inefficient than it first appears, although in many cases the proceeds are poorly governed. It is the governance and custody chain of the proceeds that this paper seeks to address. The issue of whether the ICO tokens are liquid or illiquid at various times should be disclosed in the voluntary filings espoused by this paper.

Note: this document uses the terms “token”, “coin” and “cryptocurrency” interchangeably and does not imply any technology base or any other distinctions by using one of these words or another.