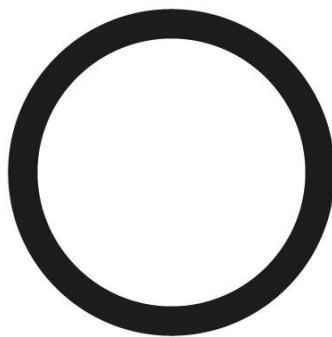

Distributed Collaborative Organisations

Distributed Networks & Regulatory Frameworks



Coin Center proudly co-sponsored the event that gave rise to this document, and supports the analysis herein as a formative contribution to an ongoing investigation into the legal and policy ramifications of distributed organizations.

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Credits

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[This is a working draft, and, at least until further review, the contributions of any individuals listed above should not be taken as the views, opinions, or positions of the organizations with which they are affiliated]

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Overview

The purpose of this document is to highlight the new capabilities that are emerging via distributed ledger technology (i.e. “[The Second Wave of Blockchain Innovation](#)”). These new tools have the potential to greatly amplify the trend of the “social web” and network effects in general by providing a robust framework for trust among network participants.

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This trend, which we call the “Trust Web,” can be advanced by the novel form of organization that we are currently proposing, the distributed collaborative organization (“DCO”). A DCO has the potential to rapidly accelerate the growth of collaborative networks, especially networks with a social component such as many of the largest and most successful Internet startups.

The first section provides an overview of the nascent distributed network industry, by which we mean all issuers of tokens on blockchains, and the various regulatory regimes under which they may fall. This notably includes the many projects which term their offerings a “crowdsale” and exchange something of nominal value, usually bitcoins, for another token issued on a blockchain. Because of the wide range of applications for this technology and the recent emergence of technology that permits such crowdsales, the regulatory environment for such offerings has often not been clear. It will hopefully be somewhat clearer after this exposition.

The information contained in this document is intended for two audiences. First, we hope to educate regulators on the various projects that exist and discuss possible legal and policy issues. We also wish to inform entrepreneurs of how their projects are likely to be viewed by regulatory authorities. Our conclusions indicate areas where innovation is likely to be non-problematic and fruitful, as well as areas where “innovation,” regardless of technical or other merits, is likely to find itself constricted or made impossible by existing regulatory regimes. We are hopeful that our work will make the preceding distinction easier to make for both regulators and those who would develop applications for or on the Trust Web. Although not itself constituting a substantive policy recommendation, this paper does contain suggestive remarks concerning the regulatory structure that is most likely to encourage innovation, and least likely to shutter those projects that are creating substantial economic benefit.

The most positive conclusion of this paper, made possible only by the contributions of many contributors, is that U.S. law may currently accommodate a distributed collaborative structure, whereby a great number of participants can engage in contract and actually control the future of the organization.

We believe this will allow a re-emergence of public goods and collaborative structures that both protect consumers and amplify economic potential, something that sadly up until now has often been an “either/or.”

We invite you to join us in a collaborative future.

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Introduction to the Trust Web

Distributed networks provide a novel way of issuing secure and tradable tokens that can include types of information, such as indicia of ownership over goods or assets. Although sometimes described as “cryptocurrency” or “cryptoequity”, both terms are imperfect and imply that the use value of the tokens is closest to currency or to an equity interest in a pre-existing corporate structure. While some tokens may be akin to currency or equity under some circumstances, there are numerous other potential applications of these tokens, each of which is specific to the Trust Web application for which the token is used. The primary and universal use case of all Trust Web tokens is simply that they provide access to their native distributed network.

The primary benefit of issuing tokens on a distributed network, such as Bitcoin, is that the tokens are strictly governed by the rules of the distributed network. They can be provably scarce and there is no centralized intermediary that can revoke access to the token. This can be used as a mechanism to increase trust, especially distributed trust among people who don't have access to traditional trust proxies (i.e., same physical location, references, trusted intermediaries, etc.). This is not only through ownership, which is the first technology to be developed, but programmatically enforceable governance structures, including complete control over the collaborative's funds.

Driven by networks such as Facebook and Twitter, the “social web” has enabled new means of interpersonal connectivity. This connectivity, however, has not always been accompanied by an increase in trust. Various sources have indicated that there has been, in fact, a reverse trend. The first innovations in the social web increased the number of connections available, but in many cases actually decreased the strength of these connections. For example, a Facebook user can find and interact with many more friends than might previously have been feasible. The nature of those interactions, however, are shaped and limited by the software that engineers and business people at Facebook choose to develop and release. The user cannot control how data from interactions is used beyond assenting to the Facebook terms of service. The user cannot negotiate for a different feature, e.g. a “dislike button,” beyond threatening to take her social networking business elsewhere. Strong network effects, however, may make this an idle threat because abandoning Facebook may mean disconnecting from other users who refuse to also leave. The social web has connected us, it's true, but the strength and versatility of those connections is limited by the imaginations and business models of the major corporate players.

The Trust Web, takes a very different approach. Its fundamentals are individual, i.e. user, ownership and control, enabled through distributed blockchains and tokenization. To continue our Facebook example, a distributed, Trust Web-powered Facebook might permit its users to vote on new features by expending tokens that they have garnered through past network participation. Alternatively, the data generated by a user's participation may be linked to tokens, which she can choose to share or not share incrementally with other individuals on the network. The Trust Web which due to cryptolegger and tokenization technologies may rapidly emerge by engaging people, giving them a stake in the technology and incentivizing them to spread it..

An analogue may be found in the emergence of social systems like Facebook and Twitter, which spread rapidly, even fostering “digital revolutions” in places where knowledge is heavily censored. This increased global connection has been possible because of globally accessible corridors (the Internet), and social networking technology (e.g., Facebook, Twitter).

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If one examines the general status of a “startup,” by which we mean a technology company that has the intention of scaling rapidly, many of the greatest successes in this category contain a strong aspect of social engagement. This includes not only AirBnb, Facebook, and Twitter, it also includes startups from the previous generation like Paypal, which despite the fairly mundane details of its technology, nonetheless fostered an enthusiastic community that greatly contributed to its growth.

In general, the Trust Web introduces a fascinating and flexible set of rights and incentives that were not present under previously existing technologies. While most types of financial instruments (e.g., stock) require issuance from a central party, this new trust layer allows the distribution of tokens by and throughout a network, potentially including tokens that can grow in utility or value as the network grows. Thus, in many ways, the token is a bearer instrument with rights attaching to its holder in due course, rather than registered instruments whose value is largely dependent on the verification and recordkeeping of an intermediary, as has become the norm in financial markets. As a particular Trust Web application grows in popularity, so too might demand for its tokens. If those tokens can be traded on open markets for money or other items of value, then early participants in the successful application may find themselves substantially rewarded for their contributions. This creates desirable incentives for early participation in and contributions to Trust Web projects.

Tokens may also permit their holders other, non-financial rights. For example, where an organization operates through or on a Trust Web network, tokens may grant participation in the future decision making of the organization, and/or access to software tools or rewards. Depending on the structure of the organization, something we will explore in greater detail later, tokens and the distributed systems of which they form a part may allow an enforceability and protection of user interests that is greater than any comparable system.

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Distributed Network Technology

As the first distributed network with an incentive mechanism to support its growth, Bitcoin has been in many ways a pioneer. Bitcoin tokens are generated automatically by the distributed network and are awarded to certain users who validate transactions and provide network infrastructure through the provision of computing power. Bitcoin tokens are tradable across Bitcoin's fully distributed peer-to-peer network, which validates the authenticity of a particular bitcoin without the need for a third-party guarantor such as a bank or government body. While the specialized nature of the computing power used to validate transactions has led to an increased amount of centralization and, perhaps, systemic risk, Bitcoin has remained a reasonably stable and secure network for value transfer over its six years of existence.

The last couple years have included the proposition and early development of numerous interrelated innovations in distributed network technology that may reduce costs and allow more customizable incentive structures, including various possibilities for users to participate in a way that may be equally as distributed and secure as Bitcoin.

In the first wave of Blockchain innovation, referring primarily to Bitcoin itself, major business participants came in three forms: miners (capturing the value of the token creation); wallets (holding and obtaining tokens via fiat transfers); and exchanges (allowing the trading of these tokens).

While all of the high-value applications of the first wave of blockchain innovation are explicitly financial, this is not the case for the second wave of blockchain innovation, which primarily rests on the idea of a "smart contract." Put simply, a smart contract uses software code to implement human intentions by dynamically carrying out instructions embedded in tokens associated with a contract, rather than relying on legal texts interpreted by courts, regulatory bodies or other legal institutions.

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Introduction to Smart Contracts

A smart contract is a self-executing digital contract that uses blockchain technology to document and verify the contract's execution.

The way a smart contract typically works is as follows:

- (1) Computer code is written that performs a specific function.
- (2) This code is placed into production via placement on a distributed network.
- (3) Party one enters into the contract by sending tokens to an address controlled by the computer code.
- (4) Additional parties enter into the contract by the same mechanism.
- (5) The computer code takes the tokens and performs some function with them, potentially re-distributing them to the parties in steps (3) and (4).

A very simple form of this is a lottery. Person one may send a single bitcoin to an address controlled by the computer code. Person two may send a second bitcoin to another address controlled by the computer code, with a 50% chance of doubling her money and 50% chance of losing it completely. This percentage can be programmatically decreased to increase the number of total bitcoins in the pot, until the lottery reaches a particularly large amount.

While the relative ease of implementing gambling contracts is a simple example of smart contracts, a wide range of more complex and interesting use cases are feasible. For example, smart contracts can be developed for escrow services, derivatives, swaps, data feeds, voting mechanisms, share issuance, and numerous other financial instruments.

It is uncertain whether established jurisprudence would regard smart contracts as contracts in the usual legal use case because individuals are not directly interacting with each other with express and particular consent. That said, there may be an implied legal contract depending on the nature of the contextual language used, which implies a certain set of outcomes from the computer code. Because smart contracts as such have not yet been scrutinized by courts, it remains to be seen how court systems in the United States and elsewhere will regard the novel contractual issues and legal complications raised by distributed networks and blockchain technology.

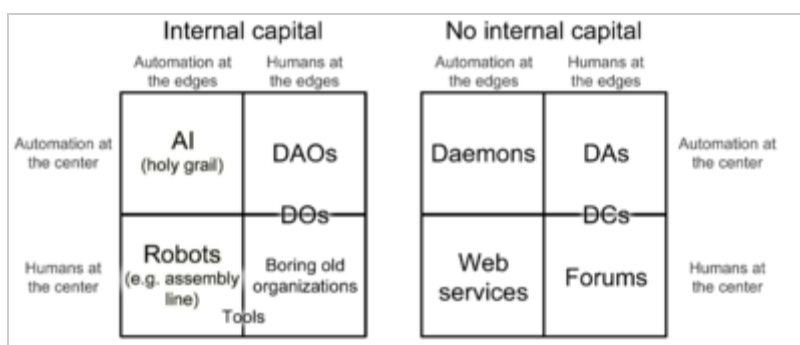
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Overview of Distributed Organizations

A particularly interesting application of smart contract technology is Distributed Organizations or DOs. These are organizations whose primary or exclusive operations are conducted on a distributed network.

The nomenclature of “Distributed Organizations” is derived from pre-existing work on these topics. The original concept, a “Decentralized Autonomous Corporation” (DAC), was coined by Daniel Larimer. The second permutation, “Decentralized Autonomous Organization,” (DAO) was coined by Vitalik Buterin. Contrary to the DAC concept, a DAO does not necessarily pursue its own profit and may represent some sort of collective or non-profit interest. The third phase, “Distributed Collaborative Organizations,” was created by Joel Dietz and refers to a specific type of DAO that provides its members with a defined set of rights that may be programmatically ensured and linked to the existing legal system.



Vitalik Buterin's Quadrant Chart for Classifying DOs

Due to its limited scripting language and relatively high transaction costs, Bitcoin has not proven to be a particularly robust structure for building DOs. Smart contracting capability and proof-of-stake¹ voting mechanisms have been fairly constrained in their capability thus far, but newly emerging technologies and alternative blockchains are making it far easier and cheaper to create custom purpose organizations.

This paper is largely focused on how Distributed Organizations can be integrated into the existing legal system, and how the core innovations that are a part of these organizations can be utilized by entities which require bank accounts and other aspects typically associated with more traditional corporations.

Fundamentally we believe that although these conventional organizations will continue to exist and propagate as independent entities, the greatest net benefit will be achieved by finding appropriate ways to integrate the innovative capacities of network-based systems with these organizations and more traditional corporate structures. What comes in the final section of this document is a recommendation on how to create these distributed organizational structures that can interface with both fully digital and traditional structures.

¹ The primary validation mechanisms for operations performed on distributed networks are proof-of-work and proof-of-stake. Proof-of-work refers to validation by the exertion of compute power, while proof-of-stake refers to validation on the basis of the amount of holdings. Both methods have strengths and weaknesses that will not be addressed in this paper.

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Distributed Networks & Open Source Economics

The positive benefit of distributed network technology and associated incentive structures can clearly be demonstrated in open source software.

Historically, software has been divided into proprietary, closed elements and free, open-source elements. The largest and most successful software companies have always been in the former category, as they are able to capture greater value by licensing their technology and enforcing any violations through the rule of law in countries that protect intellectual property and contract rights. Open source elements have only been successfully monetized by services businesses (e.g. the Red Hat model), which produce or sell consulting or other value-added services that augment the core software and technology.

Distributed network technology provides a fascinating new opportunity to incentivize people to contribute to or adopt a particular open source technology set. The most common present way is to make use of the open source technology dependent on a particular token. Software is thus designed, ex ante, to require tokens as a metaphorical fuel. As with bitcoins, these tokens may appreciate in utility and value as the network grows, thereby rewarding early participants whose contributions are often more fundamental or high risk. It is also possible to distribute tokens (either programmatically or via some centralized process) to those people who contribute to the technology set, either via some fixed service or contribution of source code.

Organizations that currently use such a method are Assembly, Ethereum, Counterparty, and all of the many Bitcoin companies that give some portion of wages in bitcoins. To date, this has not become a point of contention between traditional venture-backed companies and the newer forms of organizations that exist primarily, if not exclusively, on a blockchain.

Somewhat more controversially, these tokens can also be pre-sold or exchanged for other tokens in order to fund the development of the project. This type of sale raises significant concerns with respect to securities guidelines and will be given its own section.

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Tokenization & Assignment of Complex Legal Rights

At a fundamental level a blockchain is an open and verifiable property registry showing chain of virtual title from the current holder of a token back to the issuer of that token. While the formal legal accoutrements of ownership (e.g., specific language in deeds or contracts) may be absent, the functional result is equivalent. Throughout the transaction history, the only individual(s) with the ability to transfer the token is/are the holder(s) of the private key associated with a pseudonymous address in the chain. Bitcoin and other early experiments with blockchain technology, commonly referred to as alt-coins, focus on transferring simple value (typically fungible and scarce tokens) through the asset registry. One can, however, transfer more complicated bundles of rights via ledger, thereby adding fluidity and liquidity to property markets otherwise belabored by complex legal regimes.

To illustrate, consider intellectual property and licensing, specifically the American copyright regime. The creator of an original and creative work fixed in a tangible medium of expression is entitled, by default, to a bundle of rights known as copyright. This bundle includes rights to reproduce, distribute, perform publicly, display publicly, and make derivative works. Rights to copyrighted content may be licensed or the copyright and all of its associated rights may be assigned. In actual practice, the system is exceedingly complex and costly because of the need for specialized attorneys..

Traditionally, the drafting and transaction costs associated with these assignments, licenses, and sublicenses may be large relative to the benefits to the parties. For example, in the context of copyright licenses, courts have recently held that exclusive licensees may not, by default, sub-license the content without seeking the consent of the copyright holder. A consequence of this rule may be costly renegotiation with the copyright holder whenever a licensee wishes to sub-license. This is the logical outgrowth of treating rights associated with intellectual property as contractual rights against specific parties rather than as universally applicable rights that can be asserted by individuals against the world, as with property.

The blockchain could be used to assign some or all of the rights associated with a copyright, but leave open the identity of the assignee. This would be equivalent to an assignment-to-blank as found in bearer instruments. Particular rights could be offered by the copyright holder to the bearer of a particular blockchain-transferrable token. The bearer of a print-and-distribute token could be given the right to reproduce and distribute a book. The bearer of a performance token could be given the right to make a public performance of a play.

In American copyright law, the right to distribute a particular physical copy of a work is extinguished by the first sale of the copy. Simply put, you can't sue someone for selling used copies of your book. This has proven problematic in the digital context because sale and "delivery" of a digital work is technologically equivalent to creation of an identical digital copy. Without a means to verify that the original purchaser no longer retains the copy, resale is functionally indistinguishable from reproduction. By linking the distribution of a work to the transmittal of a scarce token with associated rights, one can ensure that a used-good retailer has verifiably relinquished legal control of the copy to the used-good purchaser. Subsequent purchasers and sellers are no longer violating the right to distribute because that right has been extinguished by the first sale doctrine. In effect, the blockchain could make the first-sale doctrine functional in digital contexts.

An original rights holder loses on this deal; she cannot sell a new copy to the individual who has chosen, instead, to purchase a used copy. A rational rights holder, however, may choose to offer a tokenized work at a premium

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above the market price of an untokenized work. The premium on the tokenized version reflects not only the use-value of the work but also the possible value of resale and transfer. Consumers may prefer the tokenized version of the work, despite a higher price, because they can freely and legally send the work on to a family member, a friend, or resell it without fear of a copyright lawsuit and without renegotiating with the original rights holder.

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Evolution of Securities Law in the United States

This section focuses on the basic concepts of securities law in the United States, which is a complex and very fact-oriented subject. The discussion does not, and is not intended to, provide legal advice or guidance. US securities law is centered upon three major concerns: protecting investors, maintaining a stable environment and promoting capital formation. “Securities” is a broad term under US law, which includes more than stocks and bonds, and an important aspect of securities law is the concept of an “investment contract.” The general idea is that when you give money to another person to perform a potentially profitable task and profitability is determined by the effort of this other person, you assume some risk that this profit will not materialize and that you will lose your money, and therefore that this is an economic and legal equivalent to an investment in “securities”.

It is neither the aim nor the task of securities law or government regulators to eliminate the risk of loss inherent in investment. Nevertheless, US securities law has adopted two general strategies for dealing with this risk. The first is to require disclosure regimes, periodic reporting and the other requirements, all dependent upon whether the sale of securities is “retail” (i.e., a registered offering to the general public) or “private” (i.e., a solicitation not made to the general public). The second strategy is to create a barrier to entry via “accreditation” of investors, typically in the context of private sales of securities. Somewhat contentiously, under current guidelines, accreditation is determined primarily by the amount of capital that the potential investor currently holds, rather than any specific test of competency.

As with all regulatory regimes, these guidelines and methods for decreasing risk evolved over time in response to particular problems that existed. In particular, the general framework and associated institutions were created with the Securities Act of 1933, the Securities Exchange Act of 1934, and the Investment Company Act of 1940, in each case in the aftermath of the great crash of 1929 and investment schemes operated in the decade that followed.

While the rules and regulations promulgated under US securities laws are continuously adapted, the securities laws themselves have not been substantially revisited on a more fundamental basis in light of the potential efficiencies of social network technology (which has the possibility of creating transparency via enhanced communication) or distributed network technology (which has the possibility of creating trust via greater individual control). In particular, it is the contention of this paper that certain applications of distributed network technology can provide Trust Web collectives that may mimic certain aspects of corporate existence or collective endeavors, but that may not qualify as corporate relationships or investment contracts at all.

To establish this, we will go in greater detail about the various potential applications of securities law to distributed network technology and associated token issuance, including presumed status within the current regulatory regime in the United States. This will involve a walk through some of the relevant case law in the United States.

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Distributed Network Technology & Securities Law

Generally speaking, a token may be considered an “investment contract” and, consequently, a security if it is issued to buyers who have a reasonable expectation of profit and if the issuers control those funds and intend to use the funds raised to generate that profit. It is possible that a token issuance may fall outside the definition of a security, depending upon its characteristics and the circumstances under which it is issued.

Below is a general assessment of how a cryptographic token issuance might be looked at by courts and regulators, with a focus on the classic “Howey test” for determining whether something is a security. A few hypothetical token cases are also included below.

It is important to note that this paper does not constitute legal advice. Furthermore, while we do include hypothetical analysis, each determination of whether a token is a security is made on a case-by-case basis, with consideration to the specific facts of each case.

Sliding Scale of Securities: Howey

The seminal Howey case is considered the touchstone for determining whether a particular contract will be considered a security under the Securities Act of 1933. According to the Howey test, an instrument is a security if it a) involves an investment of money or other tangible or definable consideration used in b) a common enterprise with c) a reasonable expectation of profits to be d) derived primarily from the entrepreneurial or managerial efforts of others.

The following sections attempt to track how the definition of a security has developed under US law. It follows the initial definition in Section 2(a) of the Securities Act of 1933 through more than 80 years of federal and state case law and administrative proceedings. Although we cannot be exhaustive, we attempt to visit the most important contributions to the definition.

Section 2(a)(1) of the Securities Act of 1933:

The term “security” means any note, stock, treasury stock, security future, security-based swap, bond, debenture, evidence of indebtedness, certificate of interest or participation in any profit-sharing agreement, collateral-trust certificate, preorganization certificate or subscription, transferable share, investment contract, voting-trust certificate, certificate of deposit for a security, fractional undivided interest in oil, gas, or other mineral rights, any put, call, straddle, option, or privilege entered into on a national securities exchange relating to foreign currency, or, in general, any interest or instrument commonly known as a “security,” or any certificate of interest or participation in, temporary or interim certificate for, receipt for, guarantee of, or warrant of right to subscribe to or purchase, any of the foregoing.

Landreth Timber Co. v. Landreth (1985) defines “stock” (paraphrased):

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An instrument bearing the name “stock” that is negotiable (can be sold), offers the possibility of capital appreciation (gain in market value), and carries the right to dividends contingent on the profits of a business enterprise is plainly a security.

[Reves vs. Ernst & Young](#) (1990) defines “notes” and introduces the “family resemblance test” (paraphrased):

Under the family resemblance test, a note is presumed to be a security unless it bears a strong resemblance, determined by examining four specified factors, to one of a judicially crafted list of categories of instrument that are not securities. The factors include motivations (such as investing for profit), plan of distribution (such as existence of trading for speculation or investment), reasonable expectation of investing public (such as having investment as its fundamental essence), whether another regulatory scheme applies (such as not being FDIC insured, or not being regulated as a pension plan).

Congress’ purpose in enacting the securities law was to regulate investments, in whatever form they are made and by whatever name they are called.

[Securities and Exchange Commission v. W. J. Howey Co.](#) (1946) defines “investment contracts” (paraphrased):

The test of an investment contract is most basically whether the scheme involves an investment of money in a common enterprise with profits to come solely from the efforts of others.

[Securities and Exchange Commission v. C.M. Joiner Leasing Corp.](#) (1943): novel devices

Further, the Court’s opinion expounded on the broad interpretive scope of the definition of investments contracts: “The reach of the [Securities Act of 1933] does not stop with the obvious and commonplace. Novel, uncommon, or irregular device, whatever they appear to be, are also reached if it be proved as matter of fact that they were widely offered or dealt in under terms or courses of dealing which established their character in commerce as ‘investment contracts,’ or ‘as any interest or instrument commonly known as a security.’”

With these broad definitions in mind, the primary elements of the Howey test can now be characterized.

Investment of Money

[Majors v. SC SECURITIES COM'N](#), 644 SE 2d 710, 373 SC 153 – SC: Supreme Court, 2007

[Finding that the sale of tax lien certificates was the sale of a security]

An “investment of money” under Howey means the investor must have committed his assets to the enterprise in such a manner as to subject himself to financial loss.

[All Seasons Resorts v. Abrams](#), 68 NY 2d 81 (1986)

[Finding a park membership was not a security, but rather a right to use]

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An ASR member receives no profit, shares in no gain, and acquires no interest in ASR's assets. Clearly, the ASR membership cannot be classified as a security for having the essential characteristics of an investment.

[Jet Set Travel Club v. Corporation Commissioner](#), 535 P.2d 109 (1975)

[Finding a jet membership was not a security, but rather a right to use]

The requirements of the "risk capital" test are not fulfilled because the benefits of the membership have materialized and have been realized by other members prior to any capital raised by the sale of Oregon memberships.

[Silver Hills Country Club v. Sobieski](#), 55 Cal.2d 811, 13 Cal. Rptr. 186, 361 P.2d 906 (1961)

[Finding a club membership was a security]

We have here nothing like the ordinary sale of a right to use existing facilities. petitioners are soliciting the risk capital with which to develop a business for profit. The purchaser's risk is not lessened merely because the interest he purchases is labelled a membership. Only because he risks his capital along with other purchasers can there be any chance that the benefits of club membership will materialize.

Expectation of Profits

[United Housing Foundation, Inc. v. Forman](#), 421 US 837 (1975)

[Holding that a commercial transaction is not a security where the purpose of the transaction is not investment for profit]

In the present case there can be no doubt that investors were attracted solely by the prospect of acquiring a place to live, and not by financial returns on their investments...Nowhere does the Bulletin seek to attract investors by the prospect of profits resulting from the efforts of the promoters or third parties. On the contrary, the Bulletin repeatedly emphasizes the "nonprofit" nature of the endeavor. ...

There is no doubt that purchasers in this housing cooperative sought to obtain a decent home at an attractive price. But that type of economic interest characterizes every form of commercial dealing. What distinguishes a security transaction—and what is absent here—is an investment where one parts with his money in the hope of receiving profits from the efforts of others, and not where he purchases a commodity for personal consumption or living quarters for personal use.

[Goldberg v. 401 North Wabash Venture LLC](#), 755 F. 3d 456 (2014)

[Finding an investment into condominium units was not a security]

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She bought them as speculative real estate investments, hoping also to earn some rental income from them, which is different from sharing returns common to all the hotel condominium owners. [and therefore not a security]

Common Enterprise

The circuit courts of appeal are divided in their interpretation of the common enterprise clause of the Howey Test. The interpretations of this clause exist primarily in these three categories, although circuit courts sometimes use multiple categories:

Horizontal Commonality

Horizontal commonality exists with the pooling of investor contributions, whereby the success of the individual investor depends on the success of the overall ventures. Pooling can sometimes – but does not always – include a pro-rata sharing of profits.

Horizontal commonality may be absent when the users obtain unique assets (e.g., a condo) by which the profit they obtain is dependent on the success of their individual asset rather than the common good. That said, many of these circumstances do qualify for the broad or narrow vertical commonality clauses.

Broad Vertical Commonality

Broad vertical commonality exists when an investor's fortunes depend on the promoter's efforts

Narrow Vertical Commonality

Narrow vertical commonality exists when an investor's profits are tied to the manager's profits

[Curran v. Merrill Lynch, Pierce, Fenner and Smith, Inc., 622 F. 2d 216 – 6th Court of Appeals 1980\)](#)

[I]n the instant case, the investor's return, while specifically determined by the commodities market, is also clearly affected by the expertise of the person doing the trading. . . . the success or failure of Bache as a brokerage house does not correlate with individual investor profit or loss. On the contrary, Bache could reap large commissions for itself and be characterized as successful, while the individual accounts could be wiped out. Here, strong efforts by Bache will not guarantee a return nor will Bache's success necessarily mean a corresponding success for Brodt. Weak efforts or failure by Bache will deprive Brodt of potential gains but will not necessarily mean that he will suffer serious losses. Thus, since there is no direct correlation on either the success or failure side, we hold that there is no common enterprise between Bache and Brodt.

[Mechigian v. Art Capital Corp., 612 F. Supp. 1421 – Dist. Court, SD New York \(1985\)](#)

I am simply unpersuaded by plaintiff's reasoning that mere payment through a non-recourse note should be sufficient to catapult an ordinary purchase of art into the purchase of a security with all the concomitant ramifications of such a purchase.... plaintiff has not met either the "horizontal commonality" test or the narrow definition of "vertical commonality," he has not satisfied the "common enterprise" prong of the Howey test for investment contracts. Accordingly, plaintiff's purchase of the "Track Relay" did not constitute the purchase of a security.

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[Revak v. SEC Realty Corp.](#), 18 F. 3d 81 – Court of Appeals, 2nd Circuit 1994

Plaintiffs owned individual units, and could make profits or sustain losses independent of the fortunes of other purchasers. There are simply no indicia of horizontal commonality. [and hence no “security”]

Efforts of a Promoter

[SEC v. Shields, United States District Court, D. Colorado.](#) September 6, 2012

"A general partnership interest is presumed not to be an investment contract because a general partner typically takes an active part in managing the business and therefore does not rely solely on the efforts of others."

[Williamson v. Tucker, 645 F. 2d 404 – Court of Appeals, 5th Circuit 1981](#)

So long as the investor has the right to control the asset he has purchased, he is not dependent on the promoter or on a third party for "those essential managerial efforts which affect the failure or success of the enterprise."... the courts that have ruled on the issue have held that a general partnership or joint venture interest generally cannot be an investment contract under the federal securities acts.

[Sync Labs LLC v. Fusion Manufacturing](#), United States District Court, D. New Jersey, September 4, 2013

If the holder of the membership interest participates actively in the LLC (it is "member-managed"), a court is likely to find that he is not relying solely on the efforts of others and the interest is not a security. If the interest holder does not participate actively in the LLC (it is "manager-managed"), then a court is likely to find that he is a passive investor and the interest is a security.

Risk Capital Test

[Forman v. Community Services, Inc., 366 F. Supp. 1117 \(SDNY 1973\).](#)

[D]enomination of the shares in Riverbay as "stock" did not, by itself, make them securities under the federal Acts.

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Overview of projects in the space

Neither decentralized organizations, smart contracts, nor the tokens exchanged are monolithic and homogeneous technologies. They are software, and come in a multitude of varieties, each with its own incumbent risks and benefits for the user. This necessarily implies that some tokens may be fairly analogized to simple private property, while others may appear as securities, and still others may be deliberately contrived to function as an extant legal right (as with a token used to transfer intellectual property rights, or a token used to represent a formal equity security as a bearer instrument). In order to come to grips with facts and attributes of the token that may or may not correspond to particular legal treatments, we have provided a matrix of in-development or recently released crypto-tokens and identified a series of important variables. These variables, in turn, can be analyzed as potential factors relevant to the legal tests for securities.

It goes without saying that these are projects that actually had some associated product, unlike many projects which are entirely scams.

Product	Product Already Built?	Right associated with token?	Transferable?	Divisible?	Exhaust with Use?	Basis of underlying value
Bitcoin	Yes.	Ability to write transactions.	Yes.	Yes.	No.	fixed supply; medium of exchange; size of network
MetaCoin	No.	Ability to use asset issuance platform and decentralized exchange.	Yes.	Yes.	Yes.	Future use of platform; fixed supply.
DApp Coin	Unreleased prototype.	Advertisers send messages; users can send each other money; users can send each other money	Yes (after lockup period).	Yes	No.	Demand for product; users network effect; Fixed supply with 5 years of inflation.
Product Coupon	Digital version; required English translation and printing.	Copy of product; voting rights on product related decisions.	Yes for voting rights, no for copy	Yes for voting rights, no for copy	No	Demand for book and related merchandise.
Membership	Beta.	Special Access to "club" including the right to participate ahead of others. Control of fiduciary matters.	Yes.	Yes.	No.	Demand for membership.
Commodity Token	Yes.	Claim on commodity; proof of custody; can cash out into bitcoin or can take delivery	Yes.	No.	No.	Directly tied to the value of the underlying gold asset.
2.0 Project Presale	public prototype	If Platform is Built, then you get Ether.	No.	No.	Yes (burn with conversion)	Expectation of the delivery of token and Platform
2.0 Platform Main Launch (projected)	n/a	Access and Use of Platform	Yes.	Yes.	Yes, within smart contract.	Network effect; Use value of Platform.
Merchant discount coin	Yes, with expectation of future use.	Rights to spend on e-commerce platform (value that is accepted by certain merchants)	Yes.	Yes.	Yes.	Offerings through merchant network, desire to purchase.
Equity giveback note	Yes.	To redeem equity ownership of Company	Yes.	Yes.	No.	Market valuation of Company; Enhanced User Status

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Review of key variables

Product already built: This status is important because of “risk capital” (the farther a product is from implementation, the greater the risk involved with investment of capital), dependent on effort of third party (Howey).

All Seasons (“memberships it offers to the public are not securities”); Jet Set Travel (“memberships are nothing more than a sale of a right to use existing facilities”); Silver Hills (promotional club memberships are securities) (9th Circuit)

Right associated with token: This status is important because of the possibility of a future promise (effort of third party), including expectation of financial rewards (Howey)

United Housing (shares in housing coops or condos are not securities); Goldberg v. 401 N. Washbash (condo shares not securities even if they result in rights to rental income); Howey (“develop[ment]” rights mean less likely to qualify as security); SEC v. Shields, United States District Court, D. Colorado.; Williamson v. Tucker, 645 F. 2d 404 – Court of Appeals, 5th Circuit 1981; Sync Labs LLC v. Fusion Manufacturing, United States District Court, D.

Transferable: This status is important because transferability provides a potential source of realizing financial rewards; it increases the likelihood that an investment of capital relates to an expectation of financial rewards (Howey)

Divisible: Divisibility is important because non-divisible assets are potentially less easily transferable, offsetting against the impact of transferability, above.

Exhaust with Use: “Exhaustible” tokens may be considered as products in and of themselves, and non-exhaustible token may be considered memberships or subscriptions, falling under different areas of existing case law.

Howey: not security if buyer *motivated* by desire to consume property

Basis of underlying value: By what basis does the token have (and potentially appreciate in) value? If the value of a token is determined by the efforts of others, then the token may qualify as a security (Howey). If via the value of a token is determined by some financial incentive, then the token may qualify as a security due to the expectation of profit. If the value of a token is dependent on a collective effort (including particular commitments of time and effort) then the token may be a partnership interest.

SEC v. Merchant Capital (partnership interests not securities); SEC v. Fields (partnership interest not securities); Reves v. E&Y (not a security if resembles commercial contract); Sync Labs v. Fusion Mfg. (active involvement of LLC interest holder makes it not a security); Howey (purchase intended to “develop” land not a security).

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Hypothetical Token Issuances

The following are a few examples of hypothetical token issuances and how they may be considered under securities law. It does not address the many different variations of these models, which must be considered on a case-by-case basis. As with the above section, it is important to note that various parameters apply, and each parameter may or may not have a substantial influence on the legal status of a token.

THIS SECTION IS INTENDED TO STIMULATE DISCUSSION AND DOES NOT CONSTITUTE LEGAL ADVICE. THE ANALYSIS BELOW DOES NOT CONSIDER ALL ISSUES RELATING TO TOKEN ISSUANCE AND SALE. THE BELOW HYPOTHETICALS ARE SIMPLIFICATIONS OF FACT PATTERNS AND THE LAW THAT APPLIES TO THEM. A PARTY SEEKING TO ISSUE OR SELL A TOKEN SHOULD CONSULT WITH LEGAL COUNSEL AND OTHER ADVISORS TO DETERMINE APPROPRIATE COURSES OF ACTION UNDER THE SPECIFIC CIRCUMSTANCES OF THEIR TOKEN, AND DUE TO THE NOVELTY OF THE TECHNOLOGY SET.

Hypothetical Token A: Software Access Token

This token represents access to a software product. The software platform is already built, and the token is used for functions that would be performed in the software environment.

Investment of Money: Token buyers are paying money for their tokens.



Common Enterprise: The token purchaser's monies are pooled together.



Reasonable Expectation of Profit: Most purchasers of a token of this type purchase it for a speculative purpose, in the belief that the value of the token would raise.



Derived Mainly from the Efforts of Others: The value of the software platform depends on the efforts of software developers.



Conclusion: Generally speaking, a software access token which is expected to appreciate in value and is largely obtained for profit is likely to be considered a security. This is particularly the case if the token represents a good

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which is not available at the time of purchase and which depends on the effort of others in order to deliver. This is potentially not the case if the product already exists or if the product is not transferable.

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Hypothetical Token B: Redeemable token for product with voting rights

Tokens that are sold in a crowdfunding campaign and serve as a “coupon” redeemable for a product at a later point.

Investment of Money: Token buyers are paying money for their tokens.



Common Enterprise: The money raised from investors is pooled to create or deliver some product.



Reasonable Expectation of Profit: Offerings of this sort fall under the “Kickstarter” style redemption and there is virtually no expectation of profit



Derived Mainly from the Efforts of Others: This is the case, although generally speaking a product already exists at time of sale. Risk capital concerns may apply if the product does not yet exist.



Conclusion: Redeemable product tokens serve a similar function as a coupon for a good and generally fall into the same regulatory guidelines that apply to Kickstarter or other perks-based models. Blockchain technology allows the addition of other things like voting rights that generally do not include a financial concern but could be structured to include a financial concern. If so, they may be considered securities.

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Hypothetical Token C: Digital proof of purchase

Tokens that accompany a purchased digital good and serve as proof of ownership.

Investment of Money: Token buyers are paying money for their tokens.



Common Enterprise: The money raised from investors is pooled to create or deliver some product.



Reasonable Expectation of Profit: Offerings of this sort fall under the “Kickstarter” style redemption and there is virtually no expectation of profit



Derived Mainly from the Efforts of Others: This is the case, although generally speaking a product already exists at time of sale. Risk capital concerns may apply if the product does not yet exist.



Conclusion: Not a security by any of the usual definitions, although it can become a security if advertised with expectation of profit or that expectation arises for some other reason (i.e. fixing voting rights to some financial interest).

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Hypothetical Token D: Distributed Collaborative Organization

The purpose and utility of a token in this category is a “membership” in some sort of organization with some rights that are unique to those members. This may or may not include some set of financial incentives that are attached to this membership.

Investment of Money: Token buyers are purchasing the membership with a token of some value.



Common Enterprise: Money raised is pooled but may not be managed by a single entity. Likely horizontal commonality but not vertical commonality.



Reasonable Expectation of Profit: Purchasers of tokens of this type may or may not purchase in expectation of profit, depending on the value of the information.



Derived Mainly from the Efforts of Others: It could be the case where the operators of the entity have total control over fund utilization and direction of the entity, such that full control over the entity is exercisable by those putting up the funds, making them effectively managers and/or partners in the success of the entity. This would necessarily include enough control to fundamentally impact the value of their tokens or the enterprise. Generally speaking an organization of this type requires some sort of voting mechanism, presumably programmatically enforced via a smart contract system.



Conclusion: Depending on the nature of the organization and the actual control held by people who have committed capital, “shares” organizations which are structured on the blockchain (commonly referred to as Decentralized Autonomous Organizations) are likely not to be considered as securities.

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Distributed Organizations and Legal Entities

As identified in the previous section, it is presumably possible to create a distributed organization (DO) that receives funds yet invests its members with sufficient control so as not to be considered an “investment contract” by the Howey test. This qualifies as a novel application of newly available technology that falls within both the letter and intent of existing legal frameworks.

The legal status of such an entity may fall into four general categories:

The first category is an **extralegal entity** in which the computer code in question is fully “autonomous,” and does not intersect with the existing legal system. That said it may be implicated if it falls into any of the regulatory categories previously described. This is particularly the case if all of the actors that participate in the entity are also automated. For example, it may be possible to have an organization that creates predictions on the weather based solely on the input of various artificial intelligence without any human input.

A second category is an **unincorporated nonprofit association**. As described in the Uniform Unincorporated North Carolina Act and other corresponding statutes in other states, it is possible to create an unincorporated association by a common statement of non-profit intent. Among other things, gives the newly created unincorporated entity the capability to hold property and protects individuals from individual liability. Because the act does not address the issue directly, it therefore does not mandate a particular governance form for an association seeking the benefits of the act. The most desirable way of forming this within the context of existing technology would be to store the name and statement of non-profit intent on the blockchain such that it provably existed at a certain point. Membership could also be established in a similar way.

A third category is a **Limited Liability Company (LLC)**. LLC law, which is generally an extension of contract law, provides a relatively free template and customizable set of contracts based on the status of the organization, with reference to a state statute allowing the form and mandating certain immutable and default terms. Traditional corporations, which feature less flexibility in their form, are not seen as optimal integration points for a distributed organization.

A fourth category is a **Special Purpose Vehicle (SPV)**. This is an entity that is established only for a specific limited purpose. This is likely to be the desired entity for a certain set of distributed organizations.

Depending on the circumstances of a particular distributed organization, formation as a subsidiary of an existing entity may be preferable.

It may be that a distributed organization can also transition through various types of corresponding cycles. For example, an organization may begin as an extralegal entity (i.e., not integrated into the existing legal structure), before transitioning into an unincorporated non-profit association (if such structure is available) or a traditionally formed entity such as a limited liability company or special purpose vehicle.

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Delaware Limited Liability Company Act - [Delaware Code Section 18-1101](#)

(b) It is the policy of this chapter to give the maximum effect to the principle of freedom of contract and to the enforceability of limited liability company agreements.

(c) To the extent that . . . a member or manager or other person has duties (including fiduciary duties) to a limited liability company or to another member or manager or to another person that is a party to or is otherwise bound by a limited liability company agreement, the member's or manager's or other person's duties may be expanded or restricted or eliminated by provisions in the limited liability company agreement . . .

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Conclusion

Innovations in distributed networks will enable the phenomenon of distributed trust, something that will accelerate the growth of other types of networks, especially social networks. We believe this will create a major shift in the types of projects that are possible, particularly in distributed organizations.

Although there are various legal considerations given the great variety of possible use cases for this technology, we believe we have demonstrated a path forward which allows not only better protection and user engagement, it provides a system that can substantially enhance technological and economic development.

We hope that this technology, while in a fairly early stage of development, will develop in such a way that it can find the maximal market penetration and utility without running afoul of existing regulatory regimes. Thankfully, we believe we have found a variety of legal structures which can accommodate the positive features of these changes and provide additional benefits (e.g. reduced liability) vis-a-vis currently existing infrastructure.

This suggests a bright future for collaboration. So it is probably only fitting that it was produced by a collaborative effort. Many thanks to one and all who contributed some piece to this rapidly expanding pie.

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References

- Britto, Jerry, Houman B. Shadab, and Andrea Castillo. "Bitcoin Financial Regulation: Securities, Derivatives, Prediction Markets, and Gambling." *Columbia Science and Technology Law Review* 6 (2014): 240-97. Web. <<https://docs.google.com/attp://www.stlr.org/cite.cgi?volume=16&article=4>>
- Buterin, Vitalik. "Launching the Ether Sale." Web log post. Ethereum Blog. Vitalik Buterin, 22 July 2014. Web. <<https://blog.ethereum.org/2014/07/22/launching-the-ether-sale/>>
- Cawrey, Daniel, and Andrew Beal. "The Importance of Keeping Crypto Crowdsales Accountable." *CoinDesk RSS*. N.p., 29 Nov. 2014. Web. <<http://www.coindesk.com/importance-keeping-crypto-crowdsales-accountable/>>
- Dietz, Joel. "Distributed Governance Whitepaper." GitHub. N.p., 10 Jan. 2015. Web. <<https://github.com/fractastical/distributed-governance>>
- Dietz, Joel. "Cryptoequity: Legal Considerations." - Google Docs. N.p., 3 Dec. 2014. Web. <<https://docs.google.com/document/d/1qY0GCGKByXc8aeUaHlggaSGzYjYHKCY0TeLKYr9b3I/edit#heading=h.90dp6noplqq7>>
- Dietz, Joel. "The Second Wave of Blockchain Innovation." Medium. N.p., 24 Dec. 2014. Web. <<https://medium.com/@Swarm/the-second-wave-of-blockchain-innovation-270e6daff3f5>>
- Dietz, Joel. "The Swarm Manifesto." *Crypto Biz Magazine*. N.p., 25 June 2014. Web. <<http://cryptobizmagazine.com/swarm-manifesto/>>
- Dietz, Joel. "SWARM: The Dawn of Cryptoequity." *Follow The Coin*. N.p., 04 June 2014. Web. <<http://www.followthecoin.com/swarm-dawn-cryptoequity/>>
- Dietz, Joel. "What Is Cryptoequity?" Medium. N.p., 31 Oct. 2014. Web. <<https://medium.com/@Swarm/what-is-cryptoequity-1df39568a271>>
- Dietz, Joel. "Crowdsale Guide." - Google Docs. N.p., 27 Dec. 2014. Web. <<https://docs.google.com/document/d/1XkffsLaSSJrokTOgHZ2WTtyu70T2oXTHRjroltTsj-M/edit>>.
- Ethereum.org. "Terms and Conditions of the Ethereum Genesis Sale." Terms and Conditions of the Ethereum Genesis Sale (n.d.): n. pag. Web. <<https://www.ethereum.org/pdfs/TermsAndConditionsOfTheEthereumGenesisSale.pdf>>.
- Gordon, James D., III. "Defending a Common Enterprise in Investment Contracts." *Ohio State Law Journal* (n.d.): n. pag. Web. <<http://moritzlaw.osu.edu/students/groups/oslj/files/2012/04/72.1.gordon.pdf>>.
- Johnston, David. "The General Theory of Decentralized Applications, DApps." GitHub. N.p., 9 Nov. 2014. Web. <<https://github.com/DavidJohnstonCEO/DecentralizedApplications>>.
- Shadab, Houman. "Why Cryptoequity May Not Be Securities." Weblog post. *Lawbitrage*. N.p., 12 Nov. 2014. Web. <<http://lawbitrage.typepad.com/blog/2014/11/cryptoequity-regulation.html>>.
- Shadab, Houman. "Decentralized Autonomous Organizations and the Law." Weblog post. *Lawbitrage*. N.p., forthcoming. Web. <internal draft>.
- Windslow, Edward. "North Carolina Has Rewritten Its Warpy Law of Unincorporated Associations." Notes Bearing Interest, North Carolina Bar Association VOL. 28, No. 3 Mar. 2007. <http://www.brookspierce.com/media/publication/19_Unincorporated%20Associations.pdf>

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Appendix A: Members of working groups

Members of Harvard Berkman Center working group on Distributed Ledgers

Andrew Beal, Crowley Strategy
Chris Crawford, Harvard Law School
Joel Dietz, Co-founder, Decentralized Autonomous Society
Founder, SWARM
Alex Fowler, Blockstream
Aaron Kaplan, Gusrae Kaplan
Houman Shadab, New York Law School
Co-Director, Center for Business and Financial Law
Editor-in-Chief, Journal of Taxation and Regulation of Financial Institutions
Coin Center Fellow
Peter Van Valkenburgh, Director of Research, Coin Center

Members of Harvard Berkman Center working group on Smart Contracts

Aaron Wright, Cardozo Law School,
Coin Center Fellow
Pamela Morgan
Primavera De Filippi, Harvard Berkman Center
Timothy Moynihan
Joshua Fairfield, Professor of Law, Washington and Lee University
Mark Verstraete
Casey Kuhlman

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Appendix B: The case of SWARM

SWARM is likely the first Distributed Collaborative Organization (DCO).

The fundamental technology, fully functional at time of launch, was first made available with the publication of a “manifesto” which described the intent of the organization encouraged people to join only if they agreed with the fundamentals described in the manifesto, which stated that its goal was to enable a “revolution of collective ownership” in the “fundamental fight for democracy.” The SWARM token was issued in exchange for other tokens issued on distributed networks for this membership as well as to various other contributors.

Voting of Swarm members occurred twice on fiduciary related matters. It was also clearly stated that members would have control over future token issuance and any related governance changes.

Additionally fascinating in light of the status of unincorporated nonprofit associations, founding members of Swarm made an explicit commitment to a particular intent, including “great generosity of spirit.” Funds were handled and exclusively managed by members of this association. A hashed version of the membership and associated vows are scheduled to enter the Ethereum genesis block.

These features place the initial tokenized offering of SWARM within the realm of the aforementioned Distributed Collaborative Organization structure, something that presumably at the current moment operates within the unincorporated non-profit association context and can continue at a future point in the context of a special purpose LLC.

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