



COUNSEL TO GREAT COMPANIES

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The Next Progression of Derivatives Markets: Distributed Ledger Technologies and Decentralized Exchanges

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Blockchain Technology & Digital Currency

Industry Group



We represent clients, ranging from startups to leading financial institutions and Fortune 500 companies who are pioneering new blockchain solutions.

- Perkins Coie has been representing blockchain companies **since 2011**, beginning with the first wave of digital currency companies and trade associations.
- We were the **first law firm** to launch an industry practice group focused specifically on **blockchain**. The group was established in **May 2013** as a natural outgrowth of our long history representing fintech, Internet, mobile and technology companies.
- Today, Perkins Coie has over **40 lawyers with experience advising companies** on all aspects of **blockchain** and **digital currency law**.
- The Perkins multidisciplinary blockchain practice is on the front lines, helping major players in the industry address the complex legal and regulatory issues faced by blockchain and other distributed ledger technologies.

Agenda

Decentralized Exchange

- DLT 101
- Smart Contracts 101
- Digital Assets 101
- Decentralized vs. Centralized Exchanges

Examples and Regulatory Treatment

- Typical DEXs
- Issues with Off-Chain Order Books

Additional Topics



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Decentralized Exchange

What is it?

Distributed Ledger Technology

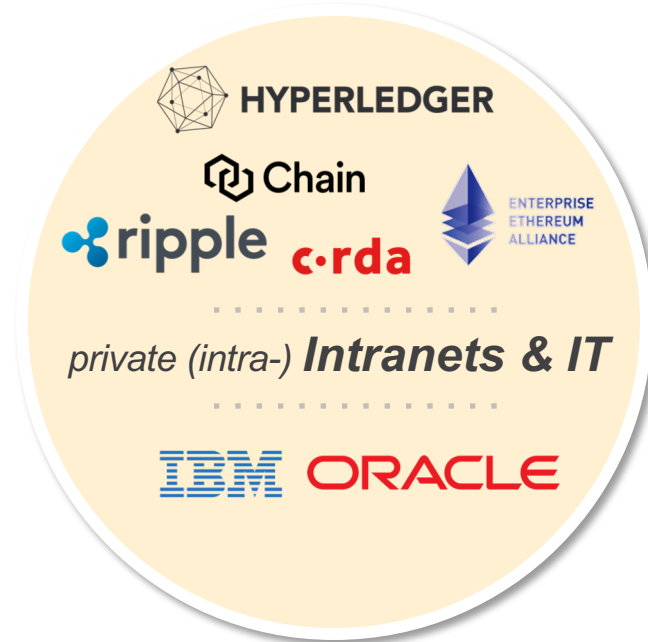
- A **distributed ledger** consists of a distributed group of **connected computers** (“nodes”) that programmatically **reach agreement** through a “consensus mechanism” with respect to the status of, or changes to, certain **shared data** (often in the form of a digital asset).
- Distributed ledgers enable peer-to-peer exchange without the need for a trusted third-party intermediary.
- A **blockchain** is one type of distributed ledger technology where shared data is grouped together and organized over time into blocks that are interconnected to each other and secured by cryptography.
- There is a network effect whereby users gravitate toward the leading ledger because it is likely to be most secure by virtue of its scale.

Public vs. Private Ledgers

Public Ledgers



Private Ledgers



Smart Contracts

- Smart contracts enable peers on a distributed ledger network to exchange value without counterparty risk.
- A **smart contract** is: (i) a computer protocol—an algorithm, (ii) that can self-execute, self-enforce, self-verify and self-constrain the performance of its instructions.
- It is: (i) an event-driven program, (ii) with state, (iii) which runs on a replicated, shared ledger and (iv) which can take custody over assets on that ledger.
- In short, smart contracts facilitate transaction automation and eliminate the need for intermediaries.

Digital Assets

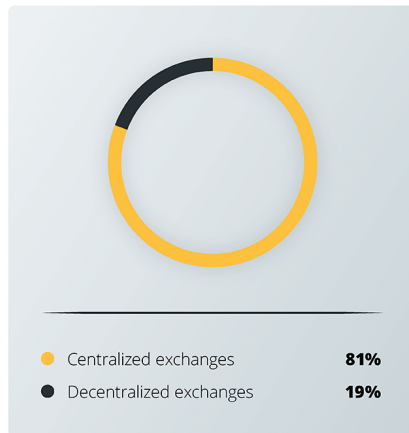
- A **digital asset** (or cryptoasset) is a digital unit that is allocated to a distributed ledger address whose value is typically related to (i) the demand for the work that they function as a reward for (e.g., operating a proof-of-work node) and (ii) their utility (e.g., as required payment for a network transaction fee).
- The term **token** is typically used to refer to a digital asset that does not have its own underlying distributed ledger but is instead generated on another ledger, such as Ethereum or Stellar.
- Anything can be “**tokenized**” and represented as a liquid digital asset – from computer storage space to gold. In addition to commodities, includes financial instruments, such as derivatives and securities.

Decentralized vs. Centralized Exchanges

- A **centralized exchange** (“**CEX**”) is an exchange platform operated by a third-party intermediary that is part of the transaction flow (e.g., as an escrow-like intermediary). Such an exchange is custodial in that you must deposit your digital assets to an exchange account.
- A **decentralized exchange** (“**DEX**”) is typically a non-custodial exchange where the user maintains their digital assets in their own digital wallet and simply utilizes the exchange to execute peer-to-peer transactions.
- **Characteristics of DEXs:** non-custodial, permissionless, on-chain settlement, order matching and order books (on-chain or off-chain).

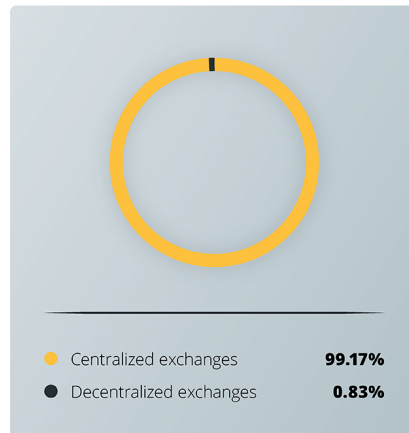
Decentralized vs. Centralized Exchanges

Ratio of the **Number**
of Centralized Exchanges
to Decentralized Ones



 cointelegraph.com

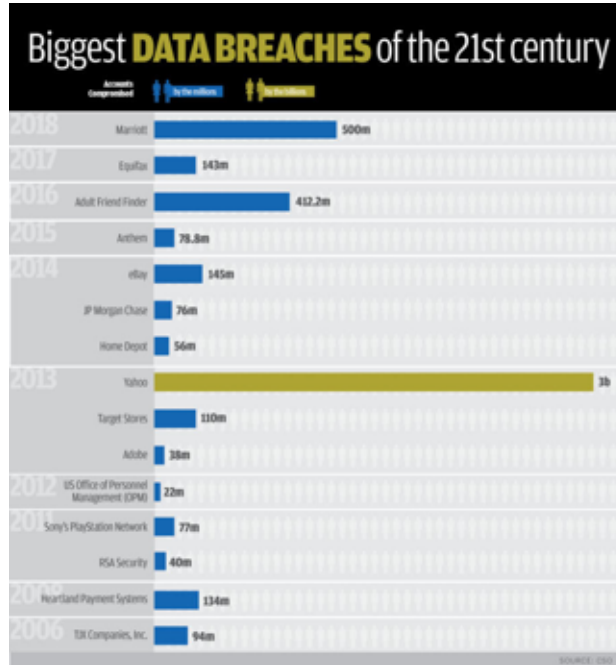
Ratio of the **Trading Volume**
of Centralized Exchanges
to Decentralized Ones



source: *TokenInsight*

Source: Cointelegraph / TokenInsight

Data Breaches



Source: Crunchbase



Decentralized Exchange Protocols

- DEX protocols use smart contracts deployed on the Ethereum blockchain (or other smart-contract enabled distributed ledgers) to facilitate the disintermediated exchange of digital assets amongst peers.
- Third parties can build exchanges with user interfaces and decentralized applications (or “**dApps**”) that facilitate order matching and the transmission of transactions to the DEX protocol smart contract.
- Order book hosts, dApps, and peers on a distributed ledger can interconnect through a single DEX protocol smart contract that enables the exchange of digital assets.

Many Regulators, Little Clarity

- Entrepreneurs, trading firms, exchanges, and other market players seeking to build and utilize this technology will need to navigate the legal and regulatory regimes of a comprehensive list of regulators at both the state and federal level eager to assert jurisdiction in this space.
- This list includes: the CFTC, SEC, FinCEN, FTC, OFAC, FSOC, IRS, NYDFS, and state agencies across the country tasked with enforcing state money transmitter, commodity, tax, anti-money laundering, and securities laws.
- Nevertheless, there is very little in terms of law or regulation on the books relating to these technologies and few have issued helpful guidance.

Many Regulators, Little Progress

“The policy and regulatory response to FinTech has been tepid in stark contrast to the mania for anything in token form. Although many U.S. regulators, including the CFTC, have created FinTech hubs to engage technologists, legal practitioners, and investors, most of these efforts have yet to move us beyond contemplation. . . . As we ponder our priorities, ongoing regulatory uncertainty may be leading firms to delay the launch of new innovations or to choose not to launch them in the U.S.—a potential economic and national security risk none of us should discount.”

– CFTC Commissioner Behnam

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New Ways to Transact

What is subject to regulation?

Transacting on a Typical DEX

Example: (i) Alex places an offer by submitting a transaction to a blockchain smart contract, (ii) Blake places a bid by submitting a transaction to a blockchain smart contract, and (iii) **either** a **smart contract matches** these parties or one of the parties selects their counter-party from an **off-chain order book** and (iv) facilitates the transfer of digital assets among them entirely on-chain.

Transacting on a Typical DEX (cont.)

CFTC Regulation:

- Depending on whether the order book is off-chain, the relevant smart contract and/or order book host may be subject to designated contract market or swap execution facility registration if it offers derivatives. The threshold question is whether it qualifies as a “trading facility” under CEA 1a(51) because it is an
“electronic facility or system in which multiple participants have the ability to . . . trade . . . (i) by accepting bids or offers made by other participants that are open to multiple participants in the facility or system; or (ii) through the interaction of multiple bids or multiple offers within a system with a pre-determined non-discretionary automated trade matching and execution algorithm.”
- The smart contract would likely be excluded from derivatives clearing organization definition because it settles transactions “on a bilateral basis and without a central counterparty.” CEA 1a(15).
- Alternatively, the smart contract and/or order book host may be acting an introducing broker because it (i) solicits or accepts orders for commodity interests; and (ii) does not accept customer funds. CEA 1a(31).

But How Do You Regulate a Smart Contract?

“. . . the code was specifically designed to enable the precise type of activity regulated by the CFTC, and no effort was made to preclude its availability to U.S. persons. Under these facts, I think a strong case could be made that the code developers aided and abetted violations of CFTC regulations. As such, the CFTC could prosecute those individuals for wrongdoing.”

– CFTC Commissioner Quintenz

Transacting on a Typical DEX (cont.)

SEC Regulation:

- If the DEX transacts in digital asset securities, the SEC requires registration as a national securities exchange per Exchange Act 3a(1), unless it is able to rely on an exclusion therefrom by registering as an alternative trading system. Such a platform is
 - “a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by an exchange.”
- **EtherDelta Order:** SEC found Zachary Coburn to have operated an unlicensed exchange.
 - “EtherDelta brought together orders by receiving and storing orders in tokens in the EtherDelta order book and displaying the top 500 orders (including token symbol, size, and price) as bids and offers on the EtherDelta website. EtherDelta provided the means for these orders to interact and execute through the combined use of the EtherDelta website, order book, and pre-programmed trading protocols defined in the EtherDelta smart contract.”

Transacting on a Typical DEX (cont.)

FinCEN:

- FinCEN requires that persons who accept “convertible virtual currency” (“**CVC**”) from a person for the purpose of transmitting it to another person or location to register as money services businesses, unless an exemption applies.
- One such exemption is the network access exemption for persons that provide the delivery, communication, or network access services used by a money transmitter to support money transmission services.
- Most non-custodial DEXs can rely on the network access exemption from the registration requirement. FinCEN guidance explains that
 - “ . . . if a CVC trading platform only provides a forum where buyers and sellers of CVC post their bids and offers (with or without automatic matching of counterparties), and the parties themselves settle any matched transactions through an outside venue (either through individual wallets or other wallets not hosted by the trading platform), the trading platform does not qualify as a money transmitter under FinCEN regulations.”

Issues with Off-Chain Order Books

Example: (i) Alex places an offer and it is listed in an **off-chain order book**, (ii) Blake places a bid in the order book, (iii) **the matched transaction is broadcasted by the platform to a smart contract** (iv) that facilitates the transfer of digital assets among them on-chain.

Issues with Off-Chain Order Books (cont.)

- When a DEX relies on an off-chain order book arrangement, you have two technologies: (1) the off-chain order book database; and (2) a DEX protocol.
- The off-chain order book is generally web-based and looks like a typical exchange. When users of the order book submit orders, the orders are matched off-chain and then broadcast from the order book to a DEX protocol that records the transaction to the relevant blockchain(s) and thereby results in the distribution of the traded assets.
- The CFTC and SEC could arguably target both the host of the off-chain order book and the DEX protocol, but neither would fit neatly into the current regulatory framework.
- FinCEN likely would not treat such a platform differently than any other DEX because it does not technically accept digital assets from either party in its role as an intermediary. However, it is possible that FinCEN could view the transmission of the matched order data to the smart contract for execution as money transmission.

Off-Platform Transactions

- Smart contract technology can enable two peers with a preexisting relationship to automate a previously negotiated transaction without use of a DEX platform.
- Such transactions would resemble OTC spots, forwards or swaps and could be memorialized by ISDA documentation but would be self-executing.
- Software providers who enable such transactions likely would not be required to register with the CFTC or SEC so long as they do not enable counterparties to link up with one another through the software and do not accept transaction-based compensation. FinCEN would not regulate these software providers as money transmitters because they are not directly involved as intermediaries in the flow of funds.

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Additional Legal and Regulatory Topics

Office of Foreign Assets Control

- The U.S. has economic sanctions programs administered by the Office of Foreign Assets Control (“**OFAC**”) that prohibit U.S. persons (for purposes of OFAC sanctions the term “persons” includes both individuals and entities) and, in some instances, foreign persons from conducting or facilitating transactions with designated countries, individual parties, aircraft, and marine vessels.
- OFAC has affirmed that OFAC compliance requirements apply equally to virtual currency and fiat currency transactions. A DEX could qualify as a “facilitator” of a virtual currency transaction.
- Persons subject to OFAC jurisdiction include: (i) U.S. citizens and permanent resident aliens (wherever located); (ii) companies organized in the U.S., including foreign branches; (iii) individuals and entities located in the U.S.; and (iv) companies organized outside the U.S. by U.S. persons under the sanctions programs for certain sanctions.

State Money Transmitter Laws

- In general, state money services laws that are colloquially termed to require a “money transmission license” regulate one or more of the following three types of activity: (i) transmitting money and, in many states, monetary value; (ii) issuing, redeeming, or selling stored value; and (iii) the issuing or selling payment instruments.
- States generally have not issued guidance pertaining to DEXs but many have indicated that they will not regulate purely peer-to-peer transactions as money transmission.
- Some states, such as California, are not licensing virtual currency businesses at this time.

New York “BitLicense” Regulations

- Under New York’s “BitLicense” regulations, a license is required for any entity providing one or more of the following services to New York residents: (1) receiving virtual currency for transmission or transmitting virtual currency, (2) storing, holding, or maintaining custody or control of virtual currency on behalf of others, (3) buying and selling virtual currency, (4) performing virtual currency exchange services, or (5) controlling, administering, or issuing a virtual currency.
- NYDFS has issued 18 BitLicenses to date.

International

- Many DEXs block access in the U.S. primarily due to the concern that digital assets traded on their platform may be considered securities by the SEC (e.g., EtherDelta).
- DEXs are generally available for access in most foreign jurisdictions.
- The Monetary Authority of Singapore has proposed to create a new “tier” or regulated status for DEXs that would be subject to a lesser degree of regulatory compliance obligations. Under the current regime, such platforms may qualify as recognized market operators (RMOs).

Thank You



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