

Presenting a live 90-minute webinar with interactive Q&A

Smart Contracts: Role of Counsel, Best Practices for Limiting Vulnerabilities

WEDNESDAY, OCTOBER 16, 2019

1pm Eastern | 12pm Central | 11am Mountain | 10am Pacific

Today's faculty features:

Kari S. Larsen, Partner, **Perkins Coie**, New York

Andrew James Lom, Partner, **Norton Rose Fulbright US**, New York

Melissa L. Markey, CISSP, Attorney, **Hall Render Killian Heath & Lyman**, Denver

Daniel Nossa, Member, **Steptoe & Johnson**, The Woodlands, Texas

The audio portion of the conference may be accessed via the telephone or by using your computer's speakers. Please refer to the instructions emailed to registrants for additional information. If you have any questions, please contact **Customer Service at 1-800-926-7926 ext. 1**.

Sound Quality

If you are listening via your computer speakers, please note that the quality of your sound will vary depending on the speed and quality of your internet connection.

If the sound quality is not satisfactory, you may listen via the phone: dial **1-877-447-0294** and enter your **Conference ID and PIN** when prompted. Otherwise, please **send us a chat or e-mail sound@straffordpub.com** immediately so we can address the problem.

If you dialed in and have any difficulties during the call, press *0 for assistance.

Viewing Quality

To maximize your screen, press the ‘Full Screen’ symbol located on the bottom right of the slides. To exit full screen, press the Esc button.

Continuing Education Credits

FOR LIVE EVENT ONLY

In order for us to process your continuing education credit, you must confirm your participation in this webinar by completing and submitting the Attendance Affirmation/Evaluation after the webinar.

A link to the Attendance Affirmation/Evaluation will be in the thank you email that you will receive immediately following the program.

For additional information about continuing education, call us at 1-800-926-7926 ext. 2.

If you have not printed the conference materials for this program, please complete the following steps:

- Click on the link to the PDF of the slides for today's program, which is located to the right of the slides, just above the Q&A box.
- The PDF will open a separate tab/window. Print the slides by clicking on the printer icon.

Financial institutions
Energy
Infrastructure, mining and commodities
Transport
Technology and innovation
Life sciences and healthcare



Smart Contracts: Role of Counsel, Best Practices for Limiting Vulnerabilities

Norton Rose Fulbright LLP
16 October 2019



Speaking to you today



Andrew Lom

Partner, Norton Rose Fulbright
Tel: +1 212 318 3119
andrew.lom@nortonrosefulbright.com

- Practice focuses on transactional and regulatory matters in financial services
- Blockchain governance, on-chain/off-chain interfaces, smart contract design, tokenization of things, token offerings, fintech-related M&A transactions
- Compliance matters for crypto assets under SEC, CFTC, anti-money laundering, UCC, consumer protection and related regulations
- Recognized as a “Fintech Trailblazer” by the National Law Journal
- Experience as an engineer before law school

Introduction

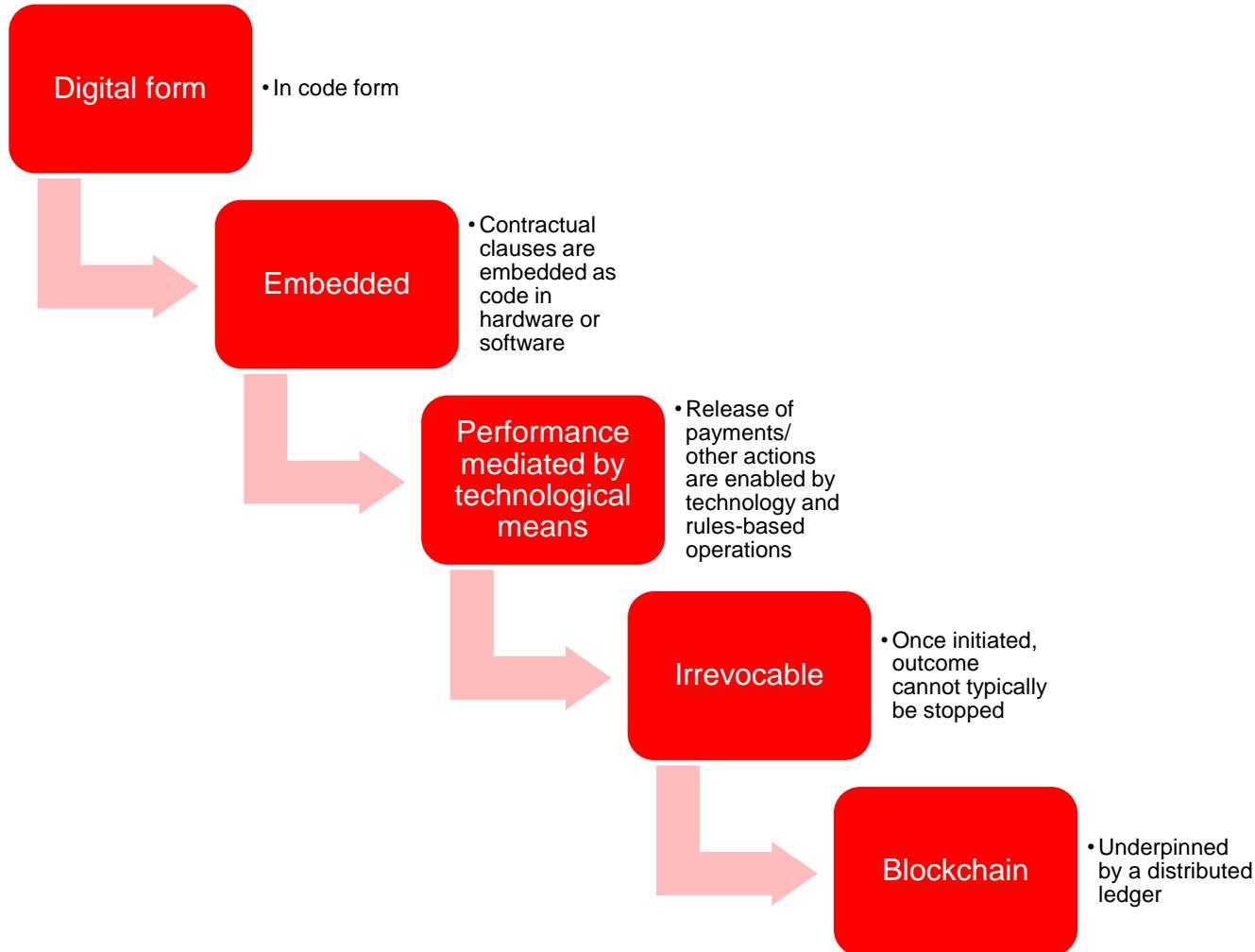
- Blockchain concepts
 - Database
 - Time aspects
 - Access aspects
 - Change aspects
- Smart contracts concepts
 - Automation
 - AI aspects
 - Interaction with other technologies
- Independent but often used together



A distributed ledger is a digital, distributed transaction ledger, with identical copies maintained on multiple computer systems controlled by different entities.

David Schatsky and Craig Muraskin, Beyond Bitcoin: Blockchain is Coming to Disrupt your Industry, Deloitte University Press, 2015

Smart contracts



“Hacking” issues

Blockchain and smart contracts are often described as unhackable, but they still have vulnerabilities:

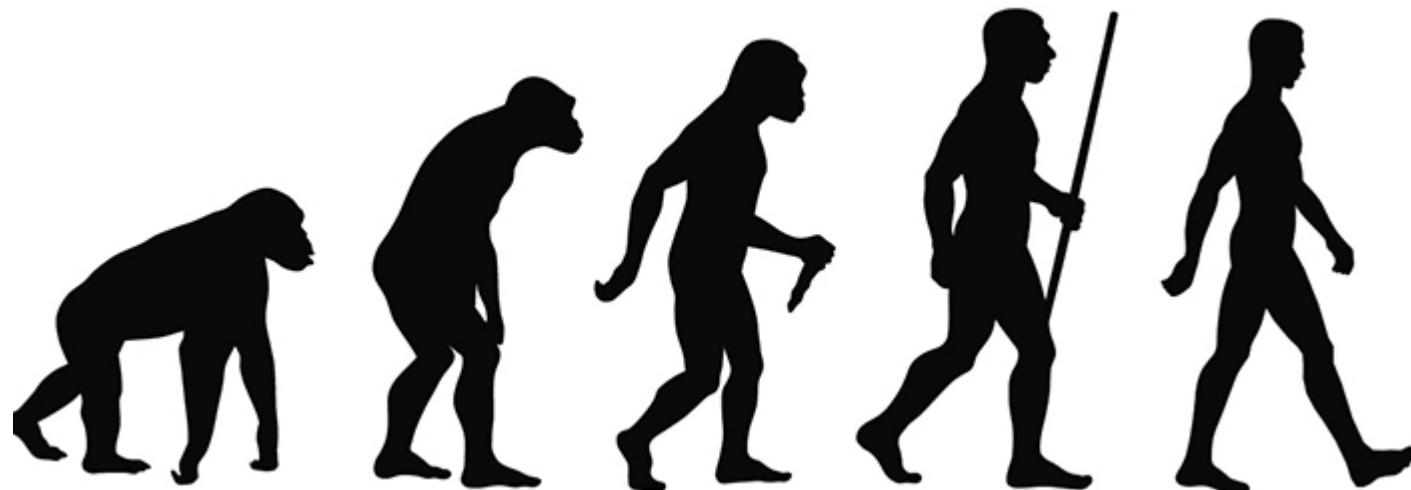
- Attack software itself
- Take over nodes
- Forks
- Attack input/output points

Daniel Nossa, Member
Steptoe & Johnson

Contract Formation

- Offer
- Acceptance
- Consideration

Evolution of Smart Contracts



Operational Clauses

- Operational clauses include conditional logic (“if-then”)—upon the occurrence of a certain event then something happens
- Upon the delivery of widgets to point X, Party A pays Party B \$100

Non-Operational Clauses

- Non-operational clauses do not include conditional logic
 - Good faith
 - Negligence
 - Commercially reasonable
 - Force majeure
 - Representations and warranties

External Model

- Contract written in natural language
- Code would not be part of the legal contract
- Code provides the mechanism to automate performance of operational clauses in the contract
- In the event of conflict between the code and the contract, the contract would control

Internal Model

- Hybrid of natural language contract and code
- Written contract could refer to code stored outside of the contract
- Code given legal effect between the parties

Code as Contract

```
1 contract NameReg {
2
3     mapping (address => string32) toName;
4     mapping (string32 => address) toAddress;
5
6     function register(string32 name) {
7         // Don't allow the same name to be overwritten.
8         if (toAddress[name] != address(0))
9             return;
10        // Unregister previous name if there was one.
11        if (toName[msg.sender] != "")
12            toAddress[toName[msg.sender]] = 0;
13
14        toName[msg.sender] = name;
15        toAddress[name] = msg.sender;
16        AddressRegistered(msg.sender);
17    }
18
19    function unregister() {
20        string32 n = toName[msg.sender];
21        if (n == "")
22            return;
23        AddressDeregistered(toAddress[n]);
24        toName[msg.sender] = "";
25        toAddress[n] = address(0);
26    }
27
28    function addressOf(string32 name) constant returns (address addr) {
29        return toAddress[name];
30    }
31
32    function nameOf(address addr) constant returns (string32 name) {
33        return toName[addr];
34    }
35
36 }
```

Constructing Smart Contracts

Select parts of contracts for which automation would be effective and efficient

- Standardization: select provisions that are used in common form by many parties in many contracts
- Complexity: select provisions that are not overly complex
- Externalities: determine whether provisions selected for automation are triggered by factors that are external to the contract

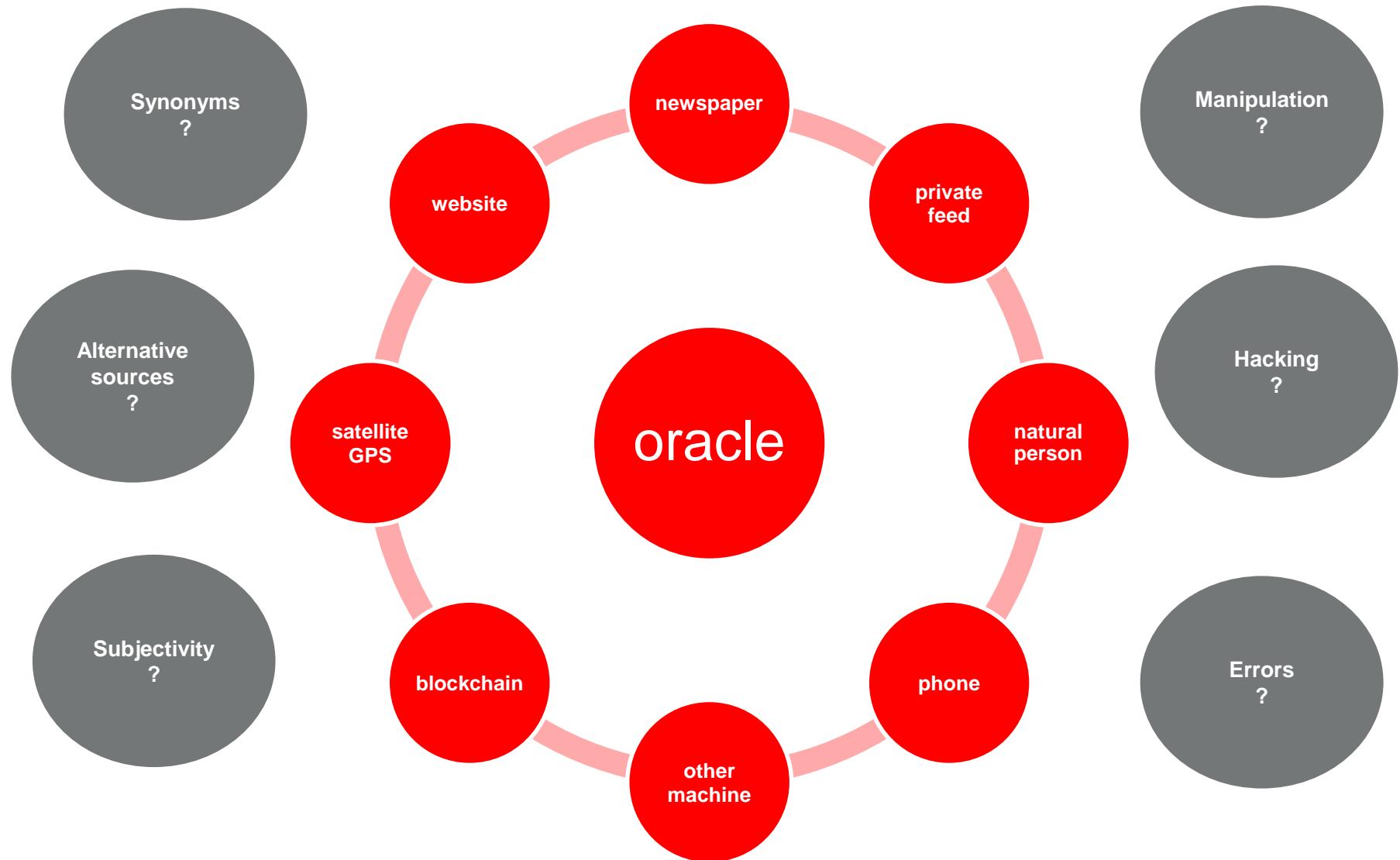
Thank You

Daniel Nossa, Member

Steptoe & Johnson

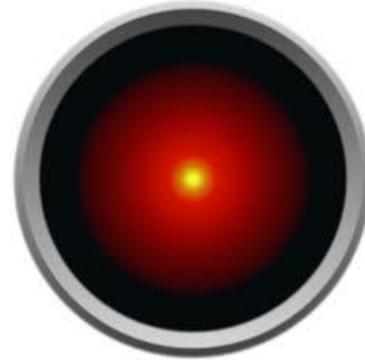
Dan.Nossa@steptoe-johnson.com

Inputs, data, defined terms



Backup systems

- System failures
- Data failures
- Output failures



*** Malfunction

Call your vendor for support

*** The system has halted ***

- Human overrides
- Paper “copies”
- Cloud systems

Further resources

Norton Rose is a noted thought leader in the blockchain and smart contracts space, having published some of the foremost recent legal commentary in the field.

Chambers Global FinTech 2018

- **Norton Rose Fulbright FinTech Hub:**
<https://knowledgeproducts.nortonrosefulbright.com/nrf/Home>
- **Norton Rose Fulbright AI Microsite:**
<https://www.aitech.law/>
- **Fintech publications:**
www.nortonrosefulbright.com/knowledge/technical-resources/blockchain/
- **Financial Services Regulation Tomorrow blog:**
www.regulationtomorrow.com

Questions?



Jurisdiction, Choice of Law, and Evidentiary Issues in Smart Contracts



Jurisdiction, Choice of Law and Venue

- In the United States, choice of law issues are typically a matter of individual state policy and jurisprudence
- Generally, when the parties to an agreement have expressly selected the law of a particular state, or if the court concludes from the provisions of an agreement that the parties wished to have the law of a particular state applied, the court will apply the rights and duties of such state

Jurisdiction, Choice of Law and Venue

- In the absence of an express selection of a state of applicable law the Restatement (Second) of Conflicts of Law looks to the state that has “the most significant relationship to the transaction and the parties,” as evidenced by
 - the place of contracting,
 - the place of negotiation,
 - the place of performance,
 - the location of the subject matter of the contract,
 - and the domicile, residence, nationality, place of incorporation, or place of business of the parties.

Jurisdiction, Choice of Law and Venue

- Courts are often wary of contracts of adhesion, where contracts are drafted by a dominant party and then presented on a ‘take-it-or-leave-it’ basis to a weaker party who has no real opportunity to bargain about its terms
- For smart contracts, the structure/process of the offer, acceptance, and consideration may indicate to a court that there was a “dominant party” who made a “take-it-or-leave-it” offer

Jurisdiction, Choice of Law and Venue

- In Europe, if the parties to a smart contract are located in different countries, or have locations in multiple countries, and have not specified choice of law in the contract, jurisdiction may be determined under:
 - “Recast” Brussels regulation
 - Rome I (EC 593/2008)
 - Rome II (EC 864/2007)

Jurisdiction, Choice of Law and Venue

- What about Arbitration?
 - Arbitration may be an alternative approach; include the details in the natural language portion of a hybrid agreement.
- When is arbitration required?
 - *Rensel v. Centra Tech Inc.*: Centra Tech argued that investors in a failed ICO agreed to arbitrate when they completed the “Token Sale Agreement”, agreeing to invest in the cryptocurrency debit card
 - Investors argued that they purchased the digital tokens through a smart contract and did not sign the Token Sale Agreement.

Jurisdiction, Choice of Law and Venue

- On-Line Dispute Resolution
 - Can be integrated into the smart contract
 - Triggered if a dispute develops
 - Can stop the execution of the smart contract if not fully performed when the dispute arises
 - Can define the “remedy” for a given dispute
 - Crowdsourced arbitration using game theory
 - “Jurors” stake their vote using tokens; those on the winning side are compensated; those on the losing side lose tokens
 - Artificial Intelligence

Litigation and Discovery

- Blockchain transaction records are transparent, visible to all, and decentralized with no central governing or managerial body
 - What happens to blockchain projects that are stored “off-chain”?
- Parties in blockchain transactions are anonymous or “pseudonymous” with only wallet addresses visible
 - *Paige v. Bitconnect Int'l PLC*
 - Litigants obtained disclosure of all cryptocurrency wallet addresses, trading account addresses and the identity of account holders

Litigation and Discovery

- Blockchain records likely qualify as computer-generated information that can be self-authenticated under Rule 902 of the Federal Rules of Evidence
- *United States v. Lizarraga-Tirado*: Blockchain records may be deemed analogous to statements or information generated by computers and do not constitute hearsay

Litigation and Discovery

- Blockchain networks are decentralized and can involve a large number of computers globally distributed.
 - Multiple jurisdictions, with conflicting discovery rules
 - May be hard to achieve personal jurisdiction
- Disputes over jurisdiction may look to locations where a party is an identifiable “on-ramp” to a blockchain or where the conduct at issue occurred before full decentralization took place

Litigation and Discovery

- *re Tezos Securities Litigation* – court found that the defendant was subject to personal jurisdiction based on factual allegations that the websites were in English, hosted in the U.S., and the offering was designed to accommodate U.S.-based participation
- *Shaw v. Vircurex*- Colorado federal court dismissed class action suit due to lack of personal jurisdiction
 - There was no evidence that there were any negotiations or that the defendants purposefully directed their activities at Colorado or even knew that the injury might impact individuals in Colorado

Litigation and Discovery

- Unlike traditional contracts, the “drafter” of a smart contract generally is a third-party programmer that may not be involved in any other way in the transaction at issue.
- How will admissible evidence regarding what might otherwise be straightforward issues of contract interpretation be obtained?
 - How are coding errors addressed?
 - How does one determine whether the parties’ agreement is accurately reflected in a given smart contract’s code?
- Does the court need its own expert?



Please visit the Hall Render Blog at <http://blogs.hallrender.com> for more information on topics related to health care law.

Melissa L. Markey
248.310.4876
mmarkey@hallrender.com

This presentation is solely for educational purposes and the matters presented herein do not constitute legal advice with respect to your particular situation.

HEALTH LAW
IS OUR BUSINESS.
Learn more at hallrender.com.

**HALL
RENDER**
KILLIAN HEATH & LYMAN

**HALL
RENDER**
KILLIAN HEATH & LYMAN



COUNSEL TO GREAT COMPANIES

Smart Contracts: Role of Counsel Government & Regulatory Issues

October 16, 2019

Kari S. Larsen, Partner

Many Regulators, Little Clarity

- Market players seeking to build and utilize smart contracts must navigate the legal and regulatory regimes of various regulators at both the state and federal level eager to assert jurisdiction in this space.
- In the United States the list includes: the CFTC, SEC, FinCEN, FTC, OFAC, FSOC, IRS, NYDFS, and state agencies across the country tasked with enforcing state tax, money transmitter, anti-money laundering, commodities, and securities laws.
- Nevertheless, there is very little in terms of law or regulation on the books relating to these technologies and only a few have issued helpful guidance or clarifications.

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

US Regulatory Issues: CFTC (1/2)

- The U.S. Commodity Futures Trading Commission (CFTC) ruled that “virtual currencies” are commodities subject to CFTC regulation.
- The Commodity Exchange Act (CEA) provides the CFTC with civil enforcement authority to investigate and prosecute alleged violations of the CEA regulations, including fraud and manipulation in both cryptocurrency derivatives markets as well as in cryptocurrency spot markets.
- Exotic instruments may pose difficult questions (e.g., MakerDAO, Compound).

US Regulatory Issues: CFTC (2/2)

- For smart contracts that interact with digital assets, 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), defined as 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 could be deemed excluded from derivatives clearing organization definition as currently drafted 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).

US Regulatory Issues: SEC (1/2)

- The U.S. Securities and Exchange Commission (SEC) has regulatory authority over the issuance or resale of any digital asset or cryptocurrency that has the characteristics of a security or an “investment contract.”
- An “investment contract” has been defined by the Supreme Court as an investment of money in a common enterprise with a reasonable expectation of profits to be derived from the efforts of others.
- “I believe every ICO I’ve seen is a security”
 - SEC Commissioner Jay Clayton

US Regulatory Issues: SEC (2/2)

- If a smart contract facilitates transactions in digital asset securities, the SEC may require registration as a national securities exchange, unless it is able to rely on an exclusion therefrom. 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.”

US Regulatory Issues: FinCEN (1/2)

- Under the Bank Secrecy Act (BSA), a money service business (MSB) is subject to federal anti-money laundering regulations enforced by the Financial Crimes Enforcement Network (FinCEN), a bureau of the US Department of Treasury.
- FinCEN has issued guidance that an “administrator or exchange of convertible virtual currency (CVC) is a ‘money transmitter’ for BSA purposes, and thus is subject to MSB compliance and registration as well as oversight with FinCEN.”
- FinCEN requires that persons who accept 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.

US Regulatory Issues: FinCEN (2/2)

- One important 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 smart contract digital asset trading platforms 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.”

US Regulatory Issues: OFAC

- 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 smart contract 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.

US Regulatory Issues: State MT and Lending 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 smart contracts 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.
- State lending laws may also be applicable for smart contract enabled lending platforms.

US Regulatory Issues: Unique State Laws

- 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.
- Various states recognize smart contracts and blockchain technology in commerce:
 - Delaware: registration of shares of DE companies in blockchain form
 - Wyoming: new state-charter depository institutions that can provide basic banking services to blockchain and other business.
- There may be other industry specific state or federal regulations to consider.

International Regulatory Issues

- Many smart contract digital asset trading platforms 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).
- Smart contract digital asset trading platforms 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 smart contract digital asset trading platforms 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).
- The EU General Data Protection Regulation (GDPR) poses unique challenges for public smart contracts.

Thank You

Kari S. Larsen, Partner
klarsen@perkinscoie.com