DISPUTE RESOLUTION JOURNAL®

AMERICAN ARBITRATION ASSOCIATION®
INTERNATIONAL CENTRE FOR DISPUTE RESOLUTION®
AAA Mediation.org®

JULY 2020 | VOLUME 74 | NUMBER 4

Arbitrating in the Cyber World of Cryptocurrency and Blockchain Regimes

Ernest Edward Badway, Esq.* Kristen L. Howell, Esq.†

This article arises out of a webinar that the authors put on through the American Arbitration Association (AAA) to explore the factual and legal issues concerning the technology associated with cryptocurrency, distributed ledgers, and blockchain. In recent years, these topics have captured the attention of the media, regulators, and the private sector—particularly in financial services. Disputes involving these technologies can be well-suited to arbitration. However, information in this developing field still tends to be geared toward specialists who already have a baseline of relevant technical knowledge. We designed this concise guide to give arbitrators and ADR practitioners, regardless of their specific areas of expertise, some grounding in the key issues. You can also view the complimentary webinar, also titled *Arbitrating in the Cyber World of Cryptocurrency and Blockchain Regimes*, at www.aaaeducation.org.

I. Why Should the ADR Community Care About Distributed Ledgers, Cryptocurrencies, and Blockchain?

If you are an arbitrator or represent parties in arbitrations, it is increasingly likely that you will encounter a dispute involving blockchain or a cryptocurrency built on one. As discussed in more detail below, these technologies will continue to proliferate, which will inevitably lead to more disputes. Arbitration also happens to be the ideal (and at times possibly the only) forum for these disputes.

---

*Ernest Edward Badway, Esq. is an American Arbitration Association arbitrator and mediator, as well as a partner in Fox Rothschild LLP's New York City and Morristown, New Jersey offices, and its Securities Industry Group chair.

†Kristen L. Howell, Esq. is a partner in Fox Rothschild LLP's Seattle, Washington office. The authors would also like to thank their partner, Joshua Horn, Esq., for his invaluable comments on this article.

Most important, parties using blockchain technology can be located anywhere in the world, which can make determining legal jurisdiction and governing law problematic. The customizable nature of arbitration addresses both issues:

- arbitration permits parties to designate a non-national, neutral dispute resolution forum such as the AAA-ICDR;
- parties can also designate a hearing locale; and
- parties benefit from an easy way to obtain international enforcement.[1]

Other features of arbitration are relevant in this context:

- The private nature of arbitration lines up well with the way crypotcurrencies operate. Pseudonymity is a key feature of blockchain-based cryptocurrencies, where users are identified not by name but by IP addresses or long strings of seemingly random characters. Cryptocurrency disputes may also involve sensitive, proprietary information. Parties may therefore be inclined to seek out a confidential dispute resolution process, which arbitration offers.
- Given that the technology is still evolving, users may also see value in a flexible dispute resolution process that can be easily adapted to changing circumstances. Arbitration allows parties to structure the process to meet their specific needs.
- These disputes are more likely to involve technical issues, such as whether a failure was caused by a bug in the operating system, corrupted messages, or defective code. Unlike in litigation, parties in arbitration can select neutrals with specialized technical expertise.

For all of these reasons, it is increasingly likely that members of the ADR community will encounter disputes involving blockchain and cryptocurrencies.

[1]Under the 1958 New York Convention on the Recognition and Enforcement of Arbitral Awards, arbitration awards can now be enforced in over 150 countries.

II. The Distributed Ledger Technology and the Mechanics of a Blockchain

A traditional database is centralized. It exists in a fixed location. A distributed ledger, by contrast, is a database that exists across several locations or among multiple participants. A distributed ledger also removes third parties from the process, making the system quite attractive for certain applications. A blockchain is one such application.

A blockchain is a decentralized ledger of digital transactions that operates based on consensus among its network of users regarding what transactions have occurred, between which parties, and in what amounts. Nodes on the network are constantly adding blocks of the most recent transactions, creating a chain of secure, immutable records of all digital transactions since the inception of the network. Each full node (a computer connected to the network) maintains a copy of the blockchain, which is constantly kept up to date. This system allows parties who might not know or trust each other to come to agreement on the state of the database, without using a third party to verify. In other words, a blockchain is a digital peer-to-peer ledger system designed to securely record transactions in and ownership of digital assets.

For every transaction, a blockchain contains an unbroken audit trail of what has taken place on the system, and it can be either public, where anyone may participate, or private, where access is limited to authorized participants. The ledger is maintained by computers associated with the systems—the "nodes"—and each node maintains its own separate and complete copy of the entire ledger—hence a "distributed" ledger. Node operators are sometimes called "miners" or participants, and they validate transactions and update the ledger to record the confirmed transactions. Blockchain avoids the "double spend" problem for digital assets, ensuring that the "seller" does not retain a copy of the digital asset or sell a counterfeit. In short, a user cannot sell the same asset multiple times.

The validation/recording process creates trust and transparency within the system and among participants, while pending transactions on the network are aggregated onto a "block" and added to the "chain" once validated.

A "hash" value is a unique string of numbers and letters assigned to each block through a process called "hashing." An altered version of the same block will yield a different hash value. This feature allows users to prove whether someone has changed the ledger, helping to protect against fraud.

A blockchain also offers enhanced transparency. Each user has an "address" that others may know while also having a "private key" to be kept confidential. Users share addresses to participate on the blockchain because the address is the place where the user's transactions are recorded, and the private key allows the user access to his or her virtual "wallet," containing the digital assets held by the user on the blockchain.

Blockchain offers a way to securely and efficiently create a tamper-proof log of sensitive activity (anything from international money transfers to shareholder records). Further, this process potentially may provide companies a secure, digital alternative to bureaucratic, time-consuming, paper-heavy, and expensive banking processes. Distributed ledgers such as blockchain are exceedingly useful for financial transactions because they cut down on operational inefficiencies, ultimately saving money, and provide greater security due to their decentralized nature, as well as the fact that the ledgers are immutable.

According to a report by the Financial Industry Regulatory Authority ("FINRA"), the financial services industry had already invested over $1.4 billion from 2014 to 2017 to integrate this technology into its systems. However, a number of technical, cultural, and operational challenges still stand in the way of mass-market adoption.

III. Blockchain Trust Problems

Although blockchain technology presents an incredible opportunity, there are certain "trust issues" in the form of governance, security, and operational quandaries.

The actual governance of blockchains is always evolving. There are no definitive rules. There is no structure. It is not readily apparent who or what is ultimately responsible for how they function or even what participation levels genuinely are.

Blockchain technology also raises a slew of security issues. For example, there is no definitive way to identify or reverse fraudulent behavior; participants are at risk for their entire investment. In cases of fraud, blockchain technology also offers the aggrieved party no avenue for the payment or reimbursement. That lack of security is yet another factor that could lead users to consider implementing alternative dispute resolution ("ADR") provisions in their agreements. Operationally, there are also no specific guidelines for the procedural applications of blockchains such as on- and off-boarding and access participants (including regulators). In fact, there is even a question as to whether regulators should be permitted to participate in a blockchain.[2] Transaction validation, such as consensus or single node, is a particular problem that has no easy answer. Other operational issues include:

- representing assets on the network (digital representation or tokenized);
- transparency and data management;
- cybersecurity; and
- business continuity, among other things.

[2]The federal government and state governments have responded to the regulatory issues raised by this technology and its applications. The SEC has formed both a Digital Currency Working Group and a Cyber Unit enforcement arm. Additionally, the New York State Department of Financial Services ("NYSDFS") has instituted particular regulations for the handling of cryptocurrency. The SEC formed the Digital Currency Working Group in 2013. The goal was to build expertise, identify emerging risk areas, and coordinate efforts among the SEC's decisions and offices, as well as with other regulators and prosecutors. The group has since changed its name to Distributed Technology Working Group and expanded to approximately 75 members. Similarly, in 2017, the SEC's Division of Enforcement also established the Cyber Unit to focus on misconduct involving, among other things, distributed ledger technology and ICOs. The Cyber Unit works closely with the Distributed Technology Working Group. The NYSDFS implemented 23 NYCRR Part 200, requiring bitlicenses. Bitlicenses were required for covering virtual currency transmission; storing, holding, or maintaining custody or control of virtual currency; buying and selling virtual currency as a business (not for personal use); performing exchange services as a business (not personal for use); and controlling, administering, or issuing virtual currency. The bitlicense framework includes site visits and interviews as well as an application form submitted to the NYSDFS. There have been approvals as well as rejections of these applications. One does not need a bitlicense if to develop and disseminate just software; or merchants and consumers using virtual currency solely to purchase or sell goods or services or to invest.

Finally, the privacy afforded by decentralized blockchains poses potential issues under anti-money laundering ("AML") and know your customer ("KYC") regulatory regimes.

All of these items present potential barriers for those participating in a blockchain-based system, whether it is a cryptocurrency or some of the other applications described in more detail later in this article.

IV. Cryptocurrency, Bitcoins, and Beyond

A. Cryptocurrencies

Despite all of these concerns, applications of blockchain have proliferated. In 2008, the cryptocurrency Bitcoin became the first example of blockchain technology at work. Bitcoin was invented by an unknown person or group of people under the name Satashi Nakomoto and released as open source software in 2009.[3] Other forms of cryptocurrency—including, but not limited to, Ethereum and digital tokens—will also be considered here. Bitcoin acts as a worldwide payment system, and it is a decentralized digital currency, since the system works without a central bank or single administrator. The network is peer-to-peer, and transactions take place between users directly, without an intermediary. As described above, these transactions are verified over a network nodes using a consensus algorithm and recorded in a blockchain. Similarly, Ethereum is an open, decentralized ledger that records transactions (in the form of "smart contracts") between parties in a verifiable and permanent way. The Ethereum blockchain serves as the backbone for a variety of applications (anything from a lottery to a copyright regime), with "Ether" tokens used to pay for the computational power, or "gas," the network requires to keep them running. (Requiring payment also counteracts spam and helps allocate resources across the network.)

[3]Although blockchain is used for virtual currencies, it may be used for any digital asset, including securities like stocks and bonds, along with everyday habit data compiled by someone. Many blockchain projects are developing new uses for the technology and digitizing, also called "tokenizing," different types of assets.

B. Tokens

Digital tokens are another form of cryptocurrency, fungible and tradable, but unique since they are programmable and their value is derived from something they represent, such as corporate equity or access to a service—not their utility as a currency or store of value. It can be helpful to consider legal definitions of what constitutes a "token." For instance, on February 28, 2019, the State of Wyoming enacted the Wyoming Utility Token Act, which defines an "open blockchain token" as "a digital unit which is":

> (A) Created: (I) In response to the verification or collection of a specified number of transactions relating to a digital ledger or database; (II) By deploying computer code to a digital ledger or database, which may include a blockchain, that allows for the creation of digital tokens or other units; or (III) Using a combination of the methods specified in subdivisions (I) and (II) of this subparagraph.
>
> (B) Recorded to a digital ledger or database, which may include a blockchain; and
>
> (C) Capable of being traded or transferred between persons without an intermediary or custodian of value.[4]

Although this definition has not been universally accepted, it provides a framework to consider the form of these tokens, and their possible use in raising capital.

C. Raising Capital Through Tokens

Equity tokens are a form of security tokens that represent ownership of an asset, such as debt or company stock. By employing blockchain technology and smart contracts, a startup could forgo a traditional IPO and issue shares and voting rights over the blockchain. Utility tokens, often called consumptive use tokens, provide users with access to a product or service. These

[4]Wyoming Utility Token Act, Wyo. Stat. § 34-29-106(g)(vi).

startups may employ a number of financing mechanisms, including, but not limited to, Regulation A+ and crowdfunding offerings made pursuant to the JOBS Act of 2012, as well as an Initial Coin Offering ("ICO").

An ICO is a funding method where an issuer or promoter sells (or pre-sells) utility tokens to the public. Purchasers may use fiat currency or virtual currencies to buy these virtual coins or tokens (or pay for the right to receive them). Issuers may use proceeds to fund the development of a digital platform or a decentralized software application ("DApp"), as well as for other purposes. The utility token may be used to access the platform or use of the software. After issuance, in certain instances, virtual coins or tokens may be resold to others in a secondary market or on a virtual currency exchange, and some buyers purchase coins as a means to speculate on the future value of the utility token. Utility token startups can raise capital to fund their blockchain projects, and users can purchase access to those services, but it is not clear if "utility tokens" constitute "securities" under federal law. Regulators and courts have relied upon the United States Supreme Court's *Howey* test, to determine if these tokens are securities.[5] In *Howey*, the Court considered the parameters for determining if an instrument qualifies as an "investment contract" for the purposes of the Securities Act of 1933. Under that test, a token will be considered a security if it involves (1) "an investment of money" (2) "in a common enterprise" (3) "with an expectation of profits" (4) "to be derived solely from the managerial efforts of others."[6] In November 2017, Jay Clayton, Chairman of the United States Securities Exchange Commission, stated that "I have yet to see an ICO that doesn't have a sufficient number of hallmarks of a security." Later, in February 2018, he said in Senate committee testimony: "I believe every ICO I've seen is a security. . . . ICOs that are securities offerings, we should regulate them like we regulate securities offerings. End of story."[7] Also in 2018, Chairman Clayton and Commodity Futures Trad-

[5] *SEC v. W.J. Howey Co.*, 328 U.S. 293, 301 (1946).

[6] *Id.*

[7] Virtual Currencies: The Oversight Role of the U.S. Securities and Exchange Commission and the U.S. Commodity Futures Trading Commission, U.S. Senate Committee on Banking, Housing, and Urban Affairs (Feb. 6, 2018).

ing Commission Chairman J. Christopher Giancarlo wrote an opinion piece in the *Wall Street Journal* where they warned that the SEC and CFTC were monitoring the cryptocurrency-related activities of the market participants it regulates. Both said the monitoring would include broker-dealers, investment advisors, and trading platforms, as well as market participants, including lawyers, trading ventures, and financial services firms.[8]

Best practices for issuing tokens attempt to account for this increased regulatory scrutiny. For instance, the Simple Agreement for Future Tokens ("SAFT") Agreement, which is modeled after the Simple Agreement for Future Equity ("SAFE"), can be used to document the "pre-sale" of tokens. In the SAFT framework, "pre-sales" of tokens are documented with the SAFT Agreement, and sales are limited to "accredited investors" to comply with the SEC's Regulation D under the Securities Act. Prior to the SAFT framework, most "pre-sales" were, generally, offered and sold to both accredited and unaccredited investors, and usually conducted in accordance with Regulation D. In the United States, the SAFT itself is designed to be a security for purposes of a "pre-sale" and requires compliance with Regulation D. Tokens are typically not delivered under the SAFT until a "Network Launch," when the tokens are intended to qualify as "utility tokens."

Although the amounts raised in ICOs since November 2017 have continued to increase, more attention from regulators has led to a slowdown more recently. Given the fact that SAFT Agreements are between sophisticated financial players, it is likely that they would want to retain some privacy over their transaction. Currently, although there is no requirement to arbitrate disputes arising from SAFT agreements, arbitrating disputes between investors and industry participants has a long history in the securities industry.[9]

---

[8] Jay Clayton & J. Christopher Giancarlo, *Regulators Are Looking at Cryptocurrency*, Wall St. J. (Jan. 24, 2018), https://www.wsj.com/articles/regulators-are-looking-at-cryptocurrency-1516836363.

[9] Neither the SEC nor the CFTC prohibit arbitrations against issuers of securities in exempt offerings. Moreover, the SEC and CFTC require that their registered entities arbitrate disputes with investors. As such, these facts work in favor of these disputes being arbitrated in the future.

D. Experimentation With Blockchain Technology

Blockchain technology has also been, or is in the process of being, employed by hedge funds and private equity funds, insurance companies, and intellectual property holders as well as in fields as diverse as entertainment, real estate, banking, and stock trading. Applications in financial services include the issuance and trading of securities; clearing and settlement uses for issuer-operated blockchains; customer identification, either specific to a single market participant or used by multiple parties; and payment processing with nearly instantaneous transfer.

There are possible roles for this technology in the broker-dealer industry. It could be used to vet issuers and securities offerings for Securities Exchange Act of 1934 Rule 10b-5, the antifraud regulation; FINRA Rule 2111, the "reasonable basis" suitability requirements; and FINRA Regulatory Notice to 10-22. Broker-dealers may also use blockchain technology to vet investors for KYC; AML; OFAC verification; and artificial intelligence verification, pursuant to Securities Act of 1933 ("Securities Act") Regulation D, Rule 506(c). Broker-dealers may use blockchain as a form of escrow and fiat currencies. Blockchain technology may also facilitate regulatory compliance in Reg A+ offerings, state Blue Sky rules, Securities Act Regulation S, and finders.

Numerai is one company attempting to decentralize the hedge fund model with a token-based approach. The company employs a network of thousands of traders and quants to build predictive models. Rather than earning salaries, the best contributors are rewarded with Numerai's token, which is called "Numeraire." In some ways it is a blockchain-based spin on Quantopian's model for rewarding data scientists, except it is less a competition and more an invisible collaboration.[10] Blockchain technology is also being used in the entertainment industry to monitor intellectual property rights. Entrepreneurs are using blockchain and smart contracts in an attempt to make content-sharing fairer for creators. It allows for the revenue on purchases of creative work to be automatically distributed according to

[10] *See* https://www.cbinsights.com/research/industries-disrupted-blockchain/.

pre-determined licensing agreements.[11] Finally, blockchain can also be used for supply chain tracking and delivery.

Conclusion

Those operating in the world of blockchain, cryptocurrency, and digital assets will almost inevitably encounter disputes that will need to be resolved through arbitration. Familiarity with these technologies will help arbitrators maximize the value they add to the process by ensuring efficient and fair resolution of this new category of disputes.

[11] *See* https://www.cbinsights.com/research/industries-disrupted-blockchain.