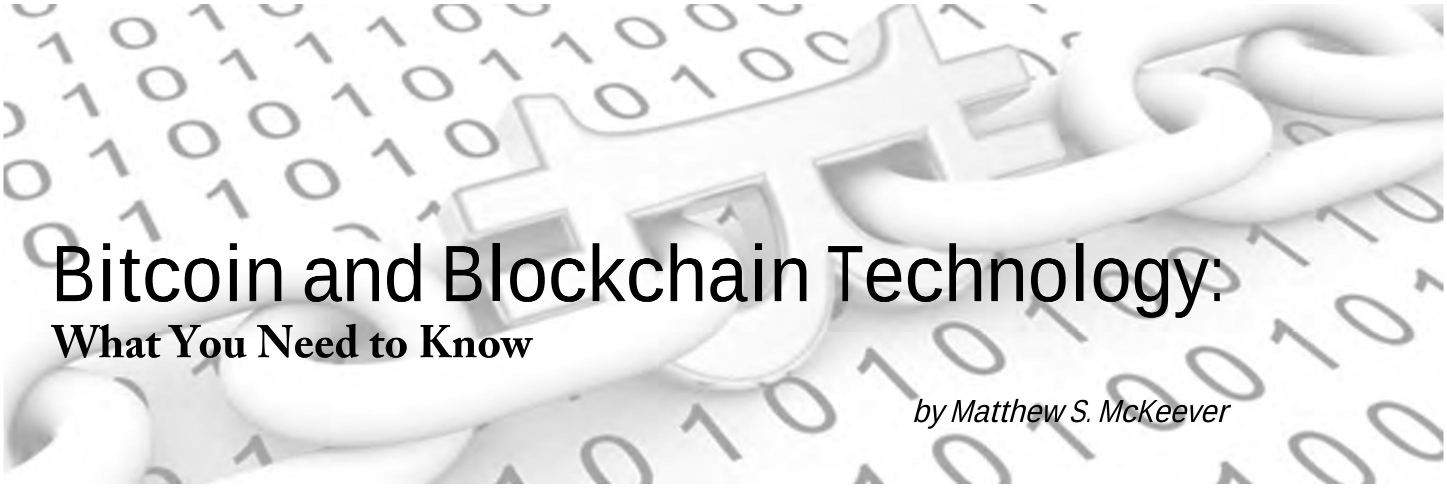

Bitcoin and Blockchain Technology:
What You Need to Know

by Matthew S. McKeever

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Introduction

Until recently most Nebraska lawyers knew of Bitcoin only through media accounts of criminal operations and hacked computers. Now, after the boom in digital currency prices last year, many of us are encountering "Bitcoin millionaire" clients seeking estate planning advice or divorce litigants who may have converted marital assets into bitcoins. The unique features of digital currencies and blockchain technology create new problems and the need for additional awareness by attorneys in nearly every practice area.

What is Bitcoin?

One of the first Federal Court decisions regarding digital currencies described the purpose of the program as follows: "Bitcoin was designed to reduce transaction costs and allows users to work together to validate transactions by creating a public record of the chain of custody of each bitcoin."[1]

Bitcoin, first released in year 2009, is essentially a shared ledger book.[2] The software combines three elements of technology: accounting software, networked computers and cryptology. Together these elements created a protocol that allows for the safe, secure and instant transmission of information on a peer-to-peer network.

Units on the Bitcoin ledger book are called "bitcoins." Bitcoins are "mined" by owners of computer hardware that run the open-source Bitcoin program. Miners receive rewards of bitcoins if they run the program. "Coins" created by Bitcoin and other protocols are often referred to as virtual currencies, digital currencies or cryptocurrencies.[3]

Bitcoin is decentralized. Each computer running the software is a "node," but no node or group of nodes controls the network. There is no central authority or "CEO of Bitcoin." Each transaction on the network is recorded through the consensus of all the nodes running the program. Bitcoin is also "open source," meaning that the software is available for anyone to download, examine, copy and use. There are thousands of variants of Bitcoin with each digital currency boasting a variety of different features.

What is Blockchain?

Bitcoin is the first application of what is known generally as blockchain technology. Like Bitcoin program, blockchain software programs create ledgers that accept authorized transactions. Transactions are recorded and gathered in groups

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known as "blocks" that are validated on the system every time a cryptographic puzzle is solved by one of the users running the software. The recorded transaction blocks are joined and secured through a process of encryption known as "hashes." It is this succession of transaction blocks that led to the term "blockchain." Transactions on a blockchain network require no third party to validate, are virtually instant, are secure and cannot be rescinded.

Problems with Bitcoin and Blockchain Technology

Bitcoin and blockchain applications have drawbacks. Users have a steep learning curve. Bitcoin's value often fluctuates wildly. While it is virtually impossible to "hack" the Bitcoin network itself, it is possible to invade a computer that holds bitcoins, steal a private key and transfer bitcoins to a new wallet. Bitcoin and its variants are often used by criminals, smugglers and members of the "Dark Web" because of its pseudonymous nature. Recent examples include the use of bitcoin by the operator of the Silk Road website. More recently, ransomware such as WannaCry and Petya programs cause computer files to be encrypted with the payment required for decryption. Money laundering is still a problem.[4] However, most users are using Bitcoin for speculation or payment, not for criminal purposes.[5] Bitcoin is not anonymous, and users can be traced using computer forensics, causing criminals to now shy away from using blockchain-based currencies.[6] For example, the FBI recently applied the methods it developed tracking Bitcoin transactions to support indictments in the ongoing Russia investigation.[7]

One of the primary ways to obtain bitcoins is to purchase them on exchanges, but these exchanges are often unstable themselves. Failures such as the Mt. Gox exchange based in Japan and the Cryptsy exchange based in Florida are two such examples that caused account holders to lose millions of dollars. Consumer protection concerns gave rise to new regulatory efforts.

Accounting and Tax Issues

Because they are not official currency of any particular country, bitcoins and other digital currencies have been classified by the Internal Revenue Service (IRS) as capital assets that qualify for capital gains tax rates if held in the long-term.[8] The tax basis in bitcoins is the cash purchase price. Fair market value (FMV) is considered and the prevalence of numerous exchanges allows the determination of FMV in U.S. dollars to be relatively easy. As with similar assets, taxable gain or loss in dollars received on the sale is considered. Gain can be long-term if owned for twelve or more months and "wash sale" rules apply for assets with a similar nature repurchased within thirty (30) days. While some taxpayers claimed "like-kind" 1031 exchange rules may apply, their arguments have not been persuasive.[9] Bitcoin is treated no differently than any other investment such as a share of stock. No taxes are due on the investment while it increases in value until the investment is actually sold for U.S. dollars or other official currency. Many digital currency exchanges help users maintain the complicated records needed to track the basis of their digital currency investments.

Estate Planning and Probate

Bitcoin's rise in use for payment and as an investment create estate planning problems. Estate planners should request the nature and locations of their clients' digital currency assets, whether stored in the form of a computer program known as a "wallet" or a hard copy known as a "paper wallet." If they regularly trade bitcoins, the names and passwords for the online exchanges for the wallets will need to be carefully recorded. Often, losing the passwords for digital currencies causes them to be unusable and unrecoverable.

Often, investments in cryptocurrencies are stored on online exchanges or storage services. Wills with provisions from the Uniform Fiduciary Access to Digital Assets Act can allow fiduciaries, personal representatives and trustees to access and control digital currency.[10] Exchanges and other custodians of Bitcoin accounts can similarly be compelled to provide a fiduciary with records of the digital assets and access to such accounts.

Hypothecation and Discovery

Digital currencies also create opportunities for debtors, divorcees and others to hide assets. It is important that in the course of discovery, litigants serve interrogatories and requests tailored to virtual currencies. For example, demands should include references to disclosure of digital currencies and virtual currencies including, but not limited to, Bitcoin. The requests should also identify any local dealers or online exchanges that have been used to purchase bitcoins in the past. Computer forensics may reveal the use of online exchanges on smart phones and other devices.[11] Due to decentralized nature of the software, there is no one person who can appear as a records custodian to validate information, although some states adjusted their rules of evidence to allow blockchain data into evidence.[12] Once found, placing a value on the discovered assets is possible using exchange rates at the times of transactions.

Security Interests

Bankruptcy and Uniform Commercial Code issues have also been presented by merchants who accept bitcoins. If Bitcoin is neither money nor a deposit account, it may be considered to fall within the category of "general intangibles" which is defined as personal property not falling in any other category. Article 9 security interests may potentially attach to bitcoins, even after they are transferred, to buyers in the ordinary course of business when the secured party perfected its security interest by filing a financing statement.[13]

Accepting Bitcoins for Fees or in Trust

According to a recent opinion issued by the Nebraska Ethics Advisory Panel, the Code of Professional Conduct allows attorneys to accept digital currencies such as bitcoins as payment for legal services so long as the fee charged remains reasonable under Neb. Ct. R. Prof. Cond. § 3-501.5(a) and volatility risk is mitigated. Attorneys may also hold digital currencies in trust under certain circumstances.[14]

Regulation

Bitcoin has always been subject to applicable money transfer laws by the federal and state governments as well as other nations. Internationally, a number of countries have embraced the free use of digital currencies while other countries have outright banned them. Venezuela, for example, banned mining digital currencies but created an official digital currency known as the Petro.

In the U.S., digital currencies such as Bitcoin are legal and used for a variety of legal transactions. Companies such as Microsoft, Overstock.com, Expedia.com, Gyft, Bloomberg.com, Dell computers and Nebraska business Jones Bros. Cupcakes accept bitcoins for payment.

As a store of value, the people or companies transferring bitcoins are often treated as money transmitters by U.S. regulators. In 2013, the FinCEN and the U.S. Treasury Department explicitly required those who commercially sell digital currencies to comply with existing know-your-client (KYC) and anti-money laundering (AML) regulations.[15]

Recently the U.S. Commodity Futures Trading Commission and the U.S. Securities and Exchange Commission began oversight of cryptocurrency issues, including the securities regulation issues presented by the introduction of virtual currency tokens into the market known as Initial Coin Offerings (ICOs).

State Regulation

State regulation varies wildly. Some states lack any money transmission regulation. In other states, local regulators arrested and prosecuted individuals and companies selling bitcoins for failure to comply with state money transmitter laws. In 2015, the New York State Department of Banking and Finance developed the "BitLicense," requiring developers and transmitters of virtual currencies (but not merchants accepting them as payment) to register, obtain approval, maintain bonds and closely follow prescribed procedures, all at significant cost. This led to New York's "Great Bitcoin Exodus."[16] Looking to be on the forefront of this emerging technology, our neighbor Wyoming recently passed a number of laws exempting blockchain tokens from money transmitter requirements and encouraging the development of blockchain technology.[17]

Nebraska's Money Transmitter's Act is based on a recent Model Act and recently updated in year 2013 from the Sale of Checks and Funds Transmissions Act. While Nebraska's statutes do not reference digital currencies specifically, they pertain to transmission of "money or monetary value."[18] Applying statutes similar to Nebraska's version of the Model Act in year 2014, the Kansas Office of the State Bank Commissioner issued guidance finding that cryptocurrencies were neither "money" nor "monetary value" and limited the applicability of the Kansas money transmission statutes to certain third-party exchange operations.[19] The Unicameral entertained five bills in the 2018 session on the topic, including a version of a Model Act requiring virtual currency operations to register as money transmitters, but none of the bills advanced out of committee.[20]

Blockchain Applications in Nebraska

It should not have been surprising to see First National Bank or Mutual of Omaha representatives at recent blockchain technology conventions. Blockchain technology has been applied to various fields. For banks, a shared digital ledger book can be used by a number of banks as an alternative to ACH (automated clearing house) or wire transfers that take time to prepare, send and confirm. One example is the R3 project, where Bank of America, Merrill Lynch, and HSBC, as well as dozens of other financial institutions, are jointly developing distributed ledger technology for asset trading and interbank transfers.[21]

Blockchain technology can be used to record the time and content of documents such as wills, deeds, contracts, insurance policies. It can be used to transmit secure, encrypted information. Another application includes logistics, whereupon individual livestock or items of produce can be assigned a token on a blockchain. Each participant in the production, transportation and sale of the item can track and contribute information from the beginning of the process until delivery to the consumer.

Smart Contracts

Another application is "smart contracts." While claiming to be able to replace lawyers, smart contracts are agreements converted into software protocol that can be self-enforcing. When the money involved in an agreement is itself programmable, parties to a transaction can direct where the money goes under agreed-upon circumstances, without the intervention of a third party such as a probate court or an escrow agent. One such program, known as BitHalo/BlackHalo, uses a double-escrow feature and a timing function to incentivize parties to a smart contract to perform.[22] Ethereum is a program similar to Bitcoin that promises advances smart contracts and "programmable money."

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Wildcat Banking Revisited

In pre-Civil War America, a number of banks began issuing their own promissory notes to be used as currency. Some of these "Wildcat Banks" would issue redeemable paper "dollars" for deposits and then close their doors, keeping the money and making the notes worthless. Federal legislation put an end to the practice. In September of 2018, with the approval of the New York Department of Banking and Finance, two well-capitalized financial institutions recently announced the issuance of "digital dollars." The Gemini Exchange (founded by the Winklevoss Brothers) and cryptocurrency exchange Paxos will both issue dollar-backed tokens redeemable at their institutions.[23] Soon, our clients may be telling us the purchases they made online with their "Gemini Dollars."

Conclusion

Our clients are buying from Bitcoin ATMs in Lincoln and Omaha. Some of them are buying Ethereum at local check cashing storefronts. Others are getting Litecoins from online exchanges or even accepting them for payments. Blockchain technology may have created a mysterious, new asset class. Bitcoin is rapidly becoming a legitimate form of payment internationally, and the unique features of digital currencies and blockchain technology create new issues for attorneys dealing with their clients' finances.

Endnotes

1. *SEC v. Shavers*, Case No. 4:13-CV-416 (E.D. Texas, Sherman Division 2013)
2. For more on the mechanics of blockchain technology as well as other issues such as jurisdictional questions, see Echternacht, Mike and Magilton, Elsbeth, "Confidence in Contracting and Cutting Transactional Costs: Why Attorneys Need to Pay Attention to the Rise in Blockchain Systems," Nebraska Lawyer Magazine, Vol 20, No. 5, September/October 2017.
3. Generally, the term "Bitcoin" with a capital "B" is used to refer to the software and computer protocol. The term "bitcoin" with a lowercase "b" is used to refer to units of measure on the ledger book created by the Bitcoin software. In the industry, the term "virtual currency" includes any digital representations of value acting as mediums of exchange, including frequent flyer miles, video game tokens or currencies like Bitcoin. "Digital currency" is a term for virtual currencies developed specifically for creating units of monetary value, usually using blockchain software. "Cryptocurrency" references digital currencies that specifically use cryptology and encryption to secure the transactions and other data generated by the blockchain software such as Bitcoin.
4. Scheck, Justin and Shifflett, Shane, "How Dirty Money Disappears Into the Black Hole of Cryptocurrency," The Wall Street Journal, September 28, 2018.
5. Bloomberg News, "Criminals Are No Longer the Main Users of Bitcoin," August 7, 2018, cited at https://mybroadband.co.za/news/cryptocurrency/271167-criminals-are-no-longer-the-main-users-of-bitcoin.html. The article quotes Lilita Infante at the U.S. DEA as saying, "The blockchain actually gives us a lot of tools to be able to identify people. I actually want [the criminals] to keep using them."
6. Greenberg, Andy, "Your Sloppy Bitcoin Drug Deals Will Haunt You for Years," Wired Magazine, January 26, 2018 https://www.wired.com/story/bitcoin-drug-deals-silk-road-blockchain/
7. Popper, Nathaniel and Rosenberg, Matthew, "How Russian Spies Hid Behind Bitcoin in Hacking Campaign," The New York Times, July 13, 2018.
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9. Morin, Sarah-Jane, "Tax Aspects of Cryptocurrency with a Focus on the Tax Aspects of Initial Coin Offerings," The Practical Tax Lawyer, Vol. 37, No. 4, Summer 2018.
10. *See also* Lindsay, William J., "Revised Uniform Fiduciary Access to Digital Assets Act," Nebraska Lawyer Magazine, Vol. 19, No. 5, September/October 2016.
11. The author can be contacted about templated discovery demands. Discussion and feedback on the template language will be certainly appreciated.
12. For example, see 2017 Ariz. Sess. Laws 97 § 2 and Ariz. Rev. Stat. § 44-7061 (2017).
13. See Schroeder, Jeanne L., Bitcoin and the Uniform Commercial Code, Benjamin J. Cardozo School of Law, Jacob Burns Institute for Advanced Legal Studies, Faculty Research Paper 458 (August 2015)
14. Nebraska Ethics Advisory Opinion for Lawyers No. 17-03, found at: https://supremecourt.nebraska.gov/sites/default/files/ethics-opinions/Lawyer/17-03.pdf
15. "FinCen Issues Guidance on Vitucal Currencies and Regulatory Responsibilities, March 18, 2013", https://www.fincen.gov/news/news-releases/fincen-issues-guidance-virtual-currencies-and-regulatory-responsibilities, citing "Application of FinCEN's Regulations to Persons Administering, Exchanging or Using Virtual Currencies," March 18, 2013.
16. Roberts, Daniel, "Behind the 'Exodus" of Bitcoin Startups from New York," Fortune Magazine, August 14, 2015, http://fortune.com/2015/08/14/bitcoin-startups-leave-new-york-bitlicense/
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18. *See* Neb. Rev. Stat. §§8-2701- 8-2747, as amended.
19. Kansas Office of the State Bank Commissioner Guidance Document MT 2014-01, June 6, 2014, http://www.osbckansas.org/mt/guidance/mt2014_01_virtual_currency.pdf
20. *See* LB987 – Adopt the Uniform Regulation of Virtual Currencies Act (Sen. Paul Schumacher - Columbus); LB691 - Adopt the Nebraska Virtual Currency Money Laundering Act and define and redefine terms under the Nebraska Money Transmitters Act (Sen. Carol Blood - Bellevue); LB694 - Prohibit cities and villages and counties from taxing or regulating distributed ledger technology (Sen. Carol Blood - Bellevue); LB695 – Authorize and define smart contracts and authorize use of distributed ledger technology as prescribed (Sen. Carol Blood - Bellevue).
21. Kharpal, Arjun, "Intel and Major Banks, Including HSBC and BOAML, Pour $107 Million into Blockchain Group," CNBC, May 23, 2017, https://www.cnbc.com/2017/05/23/r3-funding-blockchain-intel-bank-of-america-hsbc.html
22. The author may have been one of the first attorneys to draft and execute a smart contract. In November of 2014, the author purchased a Hot Wheels car from a seller in California for $2.00 in Blackcoin using the double-escrow smart contract protocol of BlackHalo.
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