LEGAL ETHICS IN BLOCKCHAIN
(THINK TECHNOLOGY THAT POWERS CRYPTOCURRENCIES)

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As a lawyer for more than 30 years, Peter combines his technical and business background with his legal expertise to help companies with IT, Cyber intrusion, and Internet litigation, dispute resolution, and contract negotiation. Peter has been involved with the IT industry, Internet, and electronic data for his entire career. Prior to practicing law he worked as a mainframe programmer, systems analyst and management consultant for companies acquiring IT and related services, and received a Masters' in Computer Science.

Peter has clients in **healthcare, international manufacturing, state & local government, utilities, and eCommerce** who often seek his advice about practical business issues relating to IT and the Internet, which often include cyber intrusions, colo sites, cloud solutions, ERP implementation projects, website business management, outsourcing, software patents, copyrights, and trade secret protection. Because he is a seasoned IT professional with an accounting and marketing background, Peter also often advises clients about financial and marketing issues regarding IT and the Internet. His experience as an Adjunct Professor in the Law of eCommerce keeps him current on the fast moving evolution of the cyber intrusions and the Internet. He writes a legal column for www.eCommerceTimes.com, and is often quoted in the media about Internet issues and crises. Peter's blog on the Internet, IT, and eDiscovery is widely recognized for timely topics and thought-provoking ideas: www.vogelitlawblog.com

Peter guides clients through the legal, technology and business mazes of electronic evidence, cyber security & insurance, intellectual property, contracts, government regulation, and litigation. He assists many clients with ESI (Electronically Stored Information) issues and related creation, development and implementation of records retention policies.

Because of his unique background and expertise, Peter is often appointed as a Special Master to assist Courts throughout the US with eDiscovery & ESI, Internet, eCommerce, Intellectual Property, and IT matters. Peter is a Co-Founder of the **American College of e-Neutrals** and a Board Member and Fellow of the **Academy of Court Appointed Masters**. The Judges in the US District Court for the Western District of Pennsylvania appointed Peter to the E-Discovery Special Master Panel. He also serves as a court ordered Mediator in eDiscovery & ESI, Internet, eCommerce, intellectual property, and computer technology litigation. For more than 30 years Peter has served as an Arbitrator for technology disputes and services on the **Board of Directors** and is a **TechList Member** of the **Silicon Valley Arbitration & Mediation Center**.

Peter has also devoted a substantial amount of time and energy serving government agencies and non-profit organizations by addressing their computer, Social Media, and Internet issues. Peter served as Founding Chair for 12 years of the TEXAS SUPREME COURT Judicial Committee on Information Technology whose mission is to put Internet on the desktops of all 3,200 judges in Texas and implement state eFiling (www.txcourts.gov/jcit).

In 1994 Peter was President of the DALLAS BAR ASSOCIATION and also served on the Board of Directors of the STATE BAR OF TEXAS, where he served as Founding Chair of the Computer & Technology Section. Peter teaches courses on eDiscovery and the Law of eCommerce as an Adjunct Professor at the SMU DEDMAN LAW SCHOOL, and is on the founding Board of Advisors of the SMU Computer Law Review and Technology Journal.

The STATE BAR OF TEXAS gave Peter the Gene Cavin Award for Excellence in Continuing Legal Education in 2013, and a Lifetime Achievement Award for Promoting Technology in the Law in 2004. In addition, Peter is regularly recognized as one of America's Leading Business Lawyers in CHAMBERS, a Best Lawyer in America, a Top Lawyer in Dallas, and a Texas Super Lawyer.

"What CPAs Need to Know about Blockchain," Convergence 2018, Dallas CPA Society, May 2018, Frisco.

PANEL: "Exploring the Ethical Duty of Technology Competence," Ethics Fest, Dallas Bar Association, Dallas, May 2018.

PANEL MODERATOR: "Blockchain: How Will It Shape the Future of My Business?" CEO Trust, May 2018, Dallas.

"Cyber: Security & Risk," Texas Apartment Association, Annual Meeting, April 2018, San Antonio.

PANEL: "Bitcoin & Blockchain: Legal and Ethical Issues You Need to Know to Help Clients," State Bar of Texas, April 2018, WEBCAST.

"IT Legal Update," IT Leadership Business Technology Breakfast, March 2018, Dallas.

"Ethical Issues for Lawyers in the Cloud Including Cyber Risks," 31st Annual Construction Law Conference, State Bar of Texas, Dallas, March 2018.

"2018 Update to Help Clients Do Business on the Internet in the Midst of Cyber Turmoil," State Bar of Texas, February 2018, WEBCAST.

PANEL: "Minority Report was science fiction, until now," The Masters Conference, , February 2018, Dallas.

PANEL: "GDPR: Strategies for Handling EU and Cross-Border Data," Zapproved, February 2018, WEBCAST.

"Ethics in Protecting Clients from Cyber Intrusions," Friday Clinic, Dallas Bar Association, January 2018, Dallas.

PANEL: "What Now? Living in a World of Identity Theft," Crockett, McBride & Associates - Merrill Lynch, December 2017, WEBCAST.

PANEL: "Settle vs. Litigate: Making the More Statistically-Sound Decision," ALM LegalTech & Bloomberg,, December 2017, WEBCAST.

"Arbitrating in a Digital World - An eDiscovery Course for AAA Neutrals," AAA & American College of eNeutrals, December 2017, New Orleans.

PANEL: "Blockchain: Practical Applications, Issues & Answers," FEI – SIM-DFW Technology Breakfast , December 2017, Dallas.

"Cyber Risks to Lawyers For Insider Trading," Securities Section, Dallas Bar Association, Dallas, November 2017.

"Cloud Legal Ethics in a Time of Cyber Threats," Antitrust Section, Dallas Bar Association, Dallas, November 2017.

"Arbitrating in a Digital World - An eDiscovery Course for AAA Neutrals," AAA & American College of eNeutrals, October 2017, New York.

"Legal Ethics in the Cloud at a Time of Cyber Threat," Paralegal Division of the State Bar of Texas, Dallas, October 2017.

"Everything You Need to Know About GDPR," Meta SaaS, September 2017, WEBCAST.

"Legal & Ethical Issues with Blockchain (Including Privacy Tax and Regulatory)," Gardere, September 2017, Dallas.

PANEL: "How Can In-House Counsel Proactively Handle Social Media to Help Mitigate Risk in eDiscovery," Inside Counsel, September 2017, WEBCAST.

"e-Discovery Update Including the Cloud, Cyber, & Ethics," Advanced Consumer & Commercial Law Section, State Bar of Texas, September 2017, Austin.

PANEL: "The Three Most Overlooked Cybersecurity Risks: Human Factors | Information Control | Third-Party Vendors," ACC Houston, August 2017.

KEYNOTE: "Keep Investigations About Cyber Intrusions Confidential and Reporting Cyber Intrusions," Paralegal Division of the State Bar of Texas, Dallas, June 2017.

"Communications Compliance – Marketing within the Communications Protection Act," Franchise Consumer Marketing Conference, Atlanta, June 2017.

"Legal & Ethical Issues with Blockchain," Blockchain Study Group, Dallas Bar Association, Dallas, June 2017.

PANEL: "Legal & Ethical Issues with Blockchain (Including Privacy Tax and Regulatory)," State Bar of Texas, June 2017, WEBCAST.

"Stored Communications Act: Who Owns Your Emails?" Gardere, June 2017, WEBCAST.

THOUGHT LEADER: "Why Breach Prevention doesn't have to be Brain Surgery," Healthcare Providers Transformation Assembly, Nashville, June 2017.

PANEL MODERATOR: "Legal Risks Associated With Failing To Have A Cyber Incident Response Plan," 2017 South Central Cybersecurity, Privacy & Data Protection Retreat, May 2017, San Antonio.

"Ethical & Legal Advice for CPAs about eCommerce & Cyber Intrusions," 2017 Fraud & Enterprise Risk Conference, Texas State Society of CPAs, May 2017, Austin.

"Legal Ethics in the Internet Age, including Cyber Threats," Ethic Fest 2017, Dallas Bar Association, May 2017, Dallas.

PANEL: "Blockchain Legal Risks," Gardere, April 2017, WEBCAST.

"eDiscovery & eMediation," ABA Section of Dispute Resolution," 19th Annual Spring Conference, April 2017, San Francisco.

PANEL: "Special Masters: A Way of Bringing Alternatives Into Judicial Dispute Resolution," ABA Section of Dispute Resolution, 19th Annual Spring Conference, April 2017, San Francisco.

"Legal Ethics Challenges in the World of Healthcare CYBERTHREATS: Law, Technology and Professional Responsibility for Healthcare Lawyers," 29th Annual UT CLE Health Law Conference, April 2017, Houston.

PANEL: "Information Security and Innovation – How Can We Have Both?" 2017 CIO Executive Leadership Summit, April 2017, Dallas.

PANEL: "Preparing for the Inevitable Cyber Intrusion with an Incident Response Plan (IRP)," Gardere, March 2017, WEBCAST.

PANEL: "Client Advice to Help Reduce Cyber Risk," Southern Law Network, Litigation Group, March 2017, WEBCAST.

"Legal Ethics in Helping Clients Do Business on the Internet in the Midst of Cyber Turmoil," Dallas Area Paralegal Association, March 2017, Dallas.

PANEL: "Moving to the Cloud? What to Consider and How to Implement," Technology CFO Series, February 2017, Dallas.

PANEL MODERATOR: "The Challenge of Enterprise Security Today and Into the Future," 2017 CIO Executive Leadership Summit, March 2017, Houston.

"Cloud Contracts, Security Issues, and Liability within IT," IT Leadership Business Technology Breakfast, February 2017, Dallas.

"Legal Ethics in Helping Clients Do Business on the Internet in the Midst of Cyber Turmoil," Dallas Bar Association, January 2017, Dallas.

"2017 Update to Help Clients Do Business on the Internet in the Midst of Cyber Turmoil," State Bar of Texas, January 2017, WEBCAST.

"Cyber Risk to Clients (and Lawyers): Data Stored on Cloud Storage Around the World," International Law Section, Dallas Bar Association, January 2017, Dallas.

Workshops:
"eCommerce Legal Issues and Web 2.0," American Petroleum Institute, General Committee on Information Management and Technology, May 2009, Dallas.
"eGovernment and the Future of Government Services," Arizona County Treasurers Association Conference, April 2009, Safford.

Information Technology Videos on WatchIT.com:

"Managing Technology: From Big Data to the Internet of Things,""Data Transfer Agreements: What You Need to Know," "Free Speech vs. Internet Privacy and the Right to Be Forgotten," "You're in Good Hands with Cyber Insurance," "Cyber Ethics: A Growing Business Challenge," "Perspectives on Net Neutrality," "Protecting Your Business: From Social Media to Cyber Threats," "BYOD: When You Are Left to Your Own Devices," "Privacy Policies: What You Don't Know Can Hurt You," "10 Commandments of IT Contracts," "Social Media 2011 Update," "5 Big Bang Theory of the Internet," "From ERP to Cloud Computing," "Legal Issues for Virtual Worlds,""Are You on the Software Police's Most Wanted List?" and "E-Discovery Investigations: What IT Professionals Need to Know!"

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I.   INTRODUCTION TO BLOCKCHAIN

Most readers are not familiar with the term or concept Blockchain, which is actually pretty old technology. But everyone reading is familiar with cryptocurrencies which include Bitcoin, Ethereum, and Ripple since there are so many headlines about valuation, legitimacy, and about cryptocurrencies.

Blockchain is the information technology (IT) that allows cryptocurrencies to exist and operate. The IT goes back to Dr. Ralph Merkle's 1979 patent (US Patent 4,309,569) on the method for providing digital signature authentication (https://patents.google.com/patent/US4309569A/en?oq=4%2c309%2c569) which refers to a hash tree which is the allows for verification of the data content with cryptography as shown below:
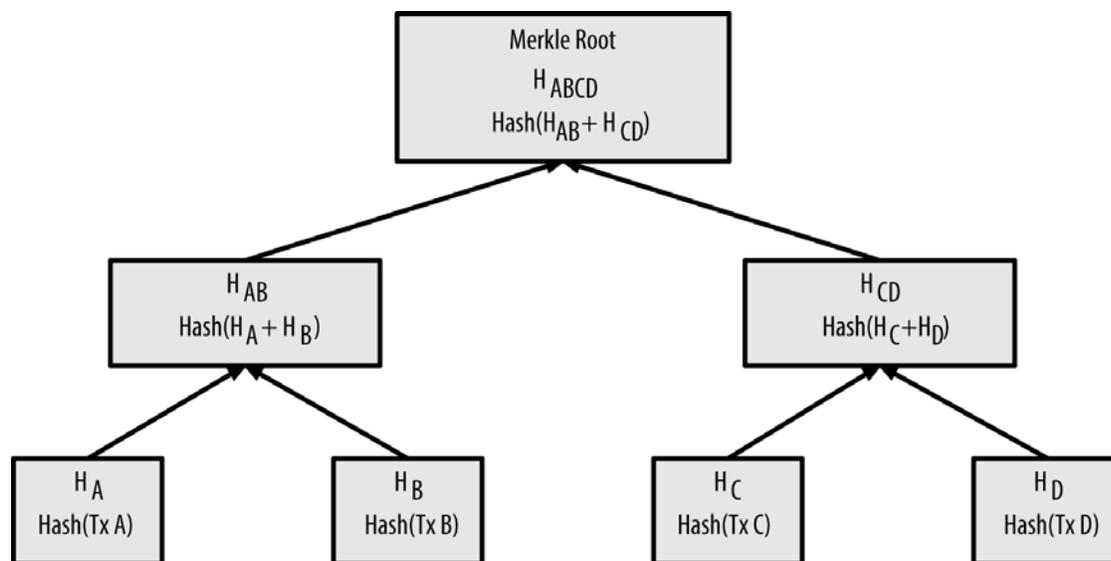

The first cryptocurrency Bitcoin got started in 2009 by an unknown person, or group of people, who used the name Satoshi Nakamoto and related open source software (which means it is not owned by anyone, rather public software) (https://en.wikipedia.org/wiki/Open-source_software). Other cryptocurrencies followed Bitcoin which simply are part of a new monetary system unregulated by any government or bank, rather by the Internet.

I have long believed that the Internet is the greatest social change in the history of humans as there are no boundaries of geography or time, and which we all know has change social communications, privacy, and business forever. So this paper will deal with how Blockchain impacts lawyers and related ethical duties.

II.   HOW DOES BLOCKCHAIN WORK?

Most readers know that we store data on our personal computers (cell, tablets, and laptops) and that most businesses use servers to manage their information in databases like Microsoft SQL, Oracle, SAP, Infor, and the like (https://en.wikipedia.org/wiki/Database). In the Blockchain world data is stored on a shared public technology referred to as distributed database or ledger which includes a means to verify each transaction on that share environment which are digitally signed and encrypted for security, authentication, verification (https://en.wikipedia.org/wiki/Distributed_database). The means of managing the verifiable data is that each transaction is stored in a separate block with a reference in unique hash number from the preceding block. Each block is locked down so the block cannot be changed. All blocks are shared with other related parties to the Blockchain data so that if anyone tried to change any data the unique has number would be modified and everyone would know that the content had been compromised.

For example before Blockchain as shown on the left below all parties would have their own unique records kept in some non-distributed database, including Party A, Party B, Auditor, and Bank. But in the Blockchain world (show on the right below) the digitally signed/encrypted transaction would be in one ledger that all parties have access to.
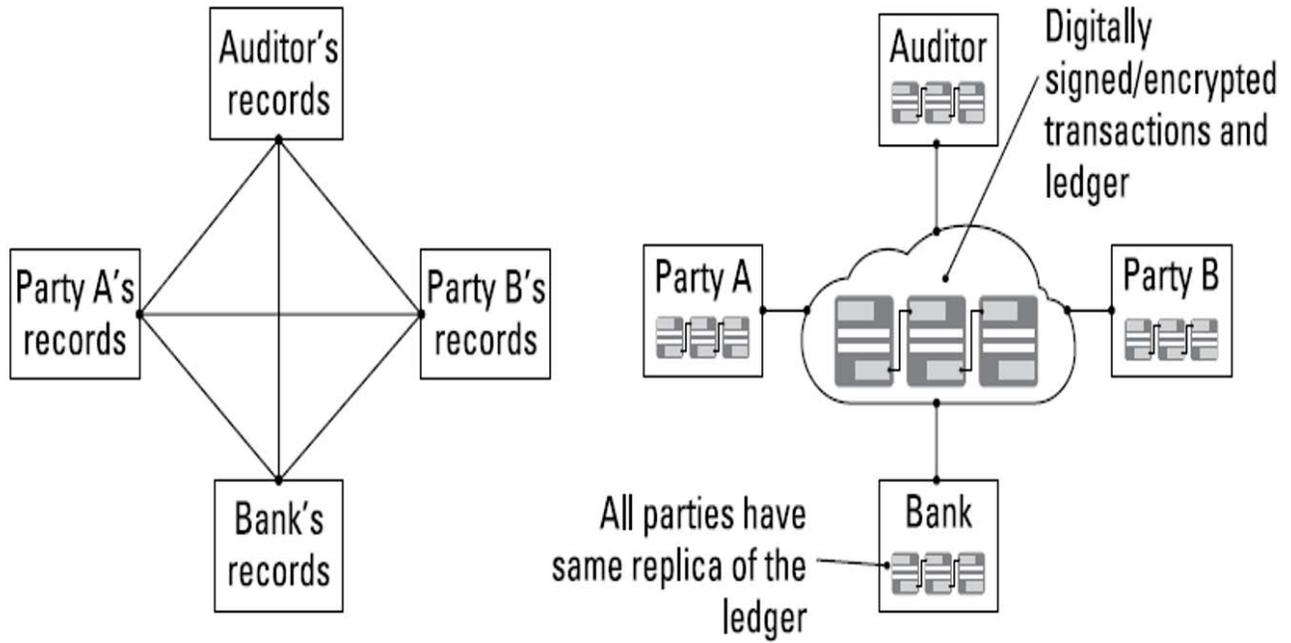
Each block requires a Proof of Work (POW) which creates the unique hash number and as shown below each block has its own transactions but is linked to the previous Block hash number (https://en.wikipedia.org/wiki/Proof-of-work_system).
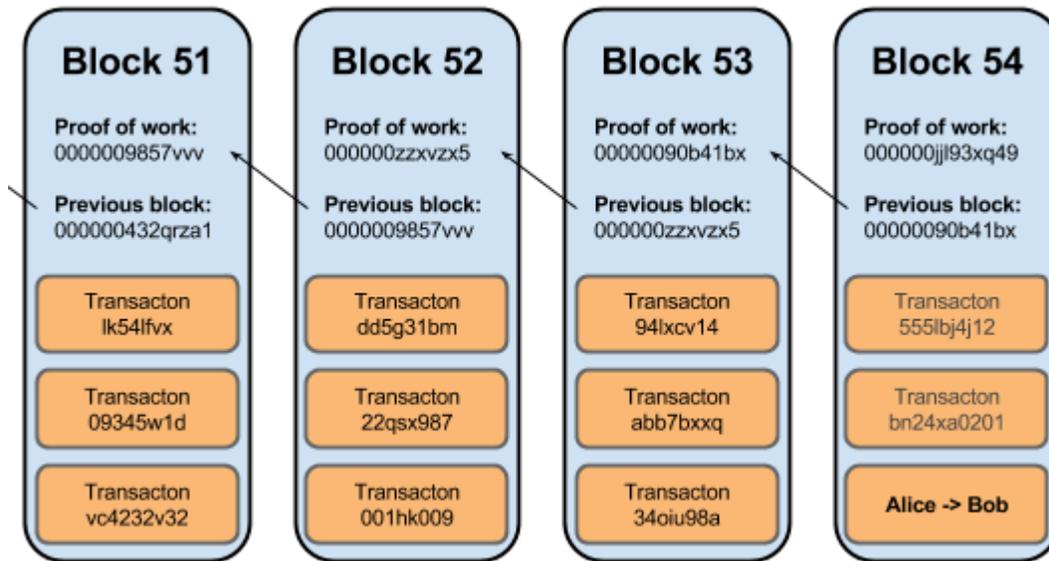
The POW in the cryptocurrency is an activity referred to as mining where individuals seek out crypto currency transactions and first person to verify the transaction gets rewarded with a payment of that cryptocurrency. The mining efforts require many computers, a great deal of electricity, but with a low probability of success. But the verification of the miners help validate that the transactions are legitimate. (https://en.wikipedia.org/wiki/Cryptocurrency#Mining)

III. CRYPTOCURRENCIES LIKE BITCOIN

As noted above most readers know about the cryptocurrencies which are unregulated monetary systems on the Internet which create a myriad of problems including whether the cryptocurrencies are commodities, securities, or money. On June 4, 2018 when this paper was written the CoinMarkCap website (https://coinmarketcap.com/all/views/all/) listed 1,639 different cryptocurrencies. But since these cryptocurrencies are Internet based there are these questions by governments in the US and around the world are having to evaluate

and answer these questions. Because of the existing tax laws it is critical that a taxing authority understand whether a tax payer has incurred a taxable event, and taxes are due. Or a taxable loss which would have a different tax consequence.

Time will tell since government are concerned that Initial Coin Offering (ICOs) may be a means to defraud investors. The Securities and Exchange Commission continues to weigh the question of whether ICOs should be registered. (https://en.wikipedia.org/wiki/Initial_coin_offering)

IV. STATE REGULATION OF CRYPTOCURRENCIES

On May 21, 2018 the Washington Post reported that "Securities regulators across the United States and Canada announced dozens of investigations Monday into potentially deceitful cryptocurrency investment products, the largest coordinated crackdown to date by state and provincial officials on bitcoin scams." The article entitled "State regulators unveil nationwide crackdown on suspicious cryptocurrency investment schemes" (https://www.washingtonpost.com/news/the-switch/wp/2018/05/21/state-regulators-unveil-nationwide-crackdown-on-suspicious-cryptocurrency-investment-schemes/?utm_term=.89213e9d0cf8) included these observations from the North American Securities Administrators Association (NASAA - http://www.nasaa.org/):

- As many as 35 cases are pending or already completed, with some resulting in cease-and-desist letters warning the alleged schemes that their unregistered activity violates state securities law.
- The enforcement actions, which have not been previously reported, take aim at efforts by groups in more than 40 jurisdictions to attract money from unsuspecting investors.
- They target unregistered securities offerings that promise lucrative returns without adequately informing investors of the risks, according to state regulators.
- The state agencies are also pursuing suspicious cases of initial coin offerings, or ICOs, a fundraising technique used by both legitimate and illegitimate cryptocurrency projects in ways that resemble initial public offerings of stock.

NASAA includes an Informed Investor Advisory: Initial Coin Offerings (http://www.nasaa.org/44836/informed-investor-advisory-initial-coin-offerings/) with these topics:

- What is an Initial Coin Offering?
- What Types of Coins or Tokens Are There?
- What is Blockchain Technology?
- Considerations for Investors
- How do investors protect themselves?

As cryptocurrencies continue to evolve it is important for lawyers to keep a close eye to see how they may affect their clients.

V. REAL PROPERTY RECORDS IN BLOCKCHAIN

Since there is great predictability of the title of real property records it seems that Blockchain will be an ideal means to manage these records in the future. Of course we all know that in Texas the real property records started in 1936 following the Texas Revolution and every County Clerk has the constitutional duty to keep these records. It seems like yesterday when I was in law school in 1970's and as part of my work went to many counties to trace real property records which searching through ancient papers to look at the ownership history.

Not all Texas counties or local governments around the US have electronic records of all real property records, but of course that's where are headed.

On October 3, 2017 real property records started in use in the Ukraine, which was reported in Bloomberg News (https://www.bloomberg.com/news/articles/2017-10-03/ukraine-turns-to-blockchain-to-boost-land-ownership-transparency) as a means to reduce fraud over ownership conflicts and reported:

Land reform is one of the requirements of the International Monetary Fund, Ukraine's biggest creditor, which has held back payments from a $17.5 billion bailout as the country has failed to meet terms. The government says establishing a comprehensive, transparent and secure registry is necessary to proceed on one element of the overhaul, lifting a ban on the sale of farmland. The switch to blockchain, though the biggest hurdle remains the lack of political support, according to the Agriculture Ministry.

Ukraine's government picked BitFury Group Ltd., which produces equipment for mining virtual currencies, to launch a platform for registering land titles, following the experience of fellow ex-Soviet republic Georgia last year.

On March 8, 2018 the CoinTelegrap reported that South Burlington Vermont conducted a pilot program for the first US all-blockchain real estate transaction (https://cointelegraph.com/news/vermonts-pilot-program-completes-first-us-all-blockchain-real-estate-transaction).

VI.   BLOCKCHAIN RELIES ON SMART CONTRACTS

Unlike what we studied in law school contracts referred to as Smart Contract are really part of the Blockchain world that programmed conditions rather negotiated contracts we studied. Since many Blockchain transactions occur which are anonymous it would be impossible for courts to intervene to know the parties were to the Smart Contracts, or perhaps even the assets that may be in dispute.

Here's what Wikipedia says about the Smart Contract (https://en.wikipedia.org/wiki/Smart_contract):

A smart contract is a computer protocol intended to digitally facilitate, verify, or enforce the negotiation or performance of a contract. Smart contracts allow the performance of credible transactions without third parties. These transactions are trackable and irreversible. Smart contracts were first proposed by Nick Szabo, who coined the term, in 1994.

Proponents of smart contracts claim that many kinds of contractual clauses may be made partially or fully self-executing, self-enforcing, or both. The aim of smart contracts is to provide security that is superior to traditional contract law and to reduce other transaction costs associated with contracting. Various cryptocurrencies have implemented types of smart contracts.

As a matter fact an interesting article on Smart Contract disputes was published on Medium.com entitled: "Smart Contract Dispute Resolution—The Need for an Open Source Blockchain Platform Ecosystem" (https://medium.com/@wulfkaal/smart-contract-dispute-resolution-the-need-for-an-open-source-blockchain-platform-ecosystem-e6318610fdef) which among other things confirmed the difficulty in asking a court to intervene since the parties may be impossible to be identified even though multiple Smart Conflicts may be in conflict.

VII.   FUTURE DIRECTION FOR BLOCKCHAIN

More than cryptocurrencies and real estate, we are already seeing the use of Blockchain in managing health care records and in particular IBM and the Food & Drug Administration (FDA) entered into a Blockchain agreement in 2017 which will help healthcare providers protect HIPAA data, EU GDPR data, and related health records by locking the data in encrypted blocks. (https://www-03.ibm.com/press/us/en/pressrelease/51394.wss)

Stay tuned for other Blockchain uses including certification and management of diamonds, oil fields, music,

VIII.   ETHICS IN TECHNOLOGY INCLUDING BLOCKCHAIN

Because all clients now rely on computers and the Internet the American Bar Association updated the Model Rules of Professional Conduct to specifically require lawyers to understand technology. (https://www.americanbar.org/groups/professional_responsibility/publications/model_rules_of_professional_conduct.html) and the State Center for Legal Ethics incorporated these same standards into the Texas Disciplinary Rules of Professional Conduct. (https://www.legalethicstexas.com/Ethics-Resources/Rules/Texas-Disciplinary-Rules-of-Professional-Conduct.aspx)

Here are the related Rules as described in detail below:

ABA Model Rules of Professional Conduct	Texas Disciplinary Rules of Professional Conduct	
1.1	1.01	Competence

1.4	1.03	Communication
1.6	1.05	Confidentiality
1.15	1.14	Duty to Safeguard Client Property
1.16	1.15	Terminating Representation
4.4	4.04	Respect for the Rights of Third Persons
5.1	5.01	Responsibilities of a Partner or Supervisory Lawyer
5.2	5.02	Responsibilities of a Subordinate Lawyer
5.3	5.03	Responsibilities Regarding Nonlawyer Assistance

Rule 1.1 Competence: A lawyer shall provide _**competent representation**_ to a client. Competent representation requires the legal knowledge, skill, thoroughness and preparation reasonably necessary for the representation.

Maintaining Competence

[8] To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, including the _**benefits and risks associated with relevant technology**_, engage in continuing study and education and comply with all continuing legal education requirements to which the lawyer is subject.

Rule 1.4 Communication

(a) A lawyer shall:

(1) promptly inform the client of any decision or circumstance with respect to which the client's informed consent, as defined in Rule 1.0(e), is required by these Rules;
(2) reasonably _**consult with the client about the means**_ by which the client's objectives are to be accomplished;
(3) _**keep the client reasonably informed**_ about the status of the matter;
(4) promptly comply with reasonable requests for information; and
(5) consult with the client about any relevant limitation on the lawyer's conduct when the lawyer knows that the client expects assistance not permitted by the Rules of Professional Conduct or other law.

(b) A lawyer shall _**explain a matter to the extent reasonably necessary**_ to permit the client to make informed decisions regarding the representation.

Rule 1.6 Confidentiality Of Information

(a) A lawyer shall not reveal information relating to the representation of a client unless the client gives informed consent, the disclosure is impliedly authorized in order to carry out the representation or the disclosure is permitted by paragraph (b).
(b) A lawyer may reveal information relating to the representation of a client to the extent the lawyer reasonably believes necessary:

(1) to prevent reasonably certain death or substantial bodily harm;
(2) to prevent the client from committing a crime or fraud that is reasonably certain to result in substantial injury to the financial interests or property of another and in furtherance of which the client has used or is using the lawyer's services;
(3) to prevent, mitigate or rectify substantial injury to the financial interests or property of another that is reasonably certain to result or has resulted from the client's commission of a crime or fraud in furtherance of which the client has used the lawyer's services;
(4) to secure legal advice about the lawyer's compliance with these Rules;

(5) to establish a claim or defense on behalf of the lawyer in a controversy between the lawyer and the client, to establish a defense to a criminal charge or civil claim against the lawyer based upon conduct in which the client was involved, or to respond to allegations in any proceeding concerning the lawyer's representation of the client;

(6) to comply with other law or a court order; or

(7) to detect and resolve conflicts of interest arising from the lawyer's change of employment or from changes in the composition or ownership of a firm, but only if the revealed information would not compromise the attorney-client privilege or otherwise prejudice the client.

(c) A lawyer shall make ***reasonable efforts to prevent the inadvertent or unauthorized disclosure*** of, or unauthorized access to, information relating to the representation of a client.

Rule 1.15 Safekeeping Property

(a) A lawyer shall hold property of clients or third persons that is in a lawyer's possession in connection with a representation separate from the lawyer's own property. Funds shall be kept in a separate account maintained in the state where the lawyer's office is situated, or elsewhere with the consent of the client or third person. Other property shall be identified as such and ***appropriately safeguarded***. Complete records of such account funds and other property shall be kept by the lawyer and shall be ***preserved for a period of [five years] after termination of the representation***.

(b) A lawyer may deposit the lawyer's own funds in a client trust account for the sole purpose of paying bank service charges on that account, but only in an amount necessary for that purpose.

(c) A lawyer shall deposit into a client trust account legal fees and expenses that have been paid in advance, to be withdrawn by the lawyer only as fees are earned or expenses incurred.

Rule 1.16 Declining Or Terminating Representation

(d) Upon termination of representation, a lawyer shall take steps to the extent reasonably practicable to protect a client's interests, such as giving reasonable notice to the client, allowing time for employment of other counsel, ***surrendering papers and property to which the client is entitled*** and refunding any advance payment of fee or expense that has not been earned or incurred. The lawyer may retain papers relating to the client to the extent permitted by other law.

Rule 5.1 Responsibilities Of Partners, Managers, And Supervisory Lawyers

(a) A partner in a law firm, and a lawyer who individually or together with other lawyers possesses comparable managerial authority in a law firm, shall ***make reasonable efforts to ensure*** that the firm has in effect measures giving reasonable assurance that ***all lawyers*** in the firm ***conform to the Rules of Professional Conduct***.

(b) A lawyer having direct supervisory authority over another lawyer shall make reasonable efforts to ensure that the other lawyer conforms to the Rules of Professional Conduct.

(c) A lawyer shall be responsible for another lawyer's violation of the Rules of Professional Conduct if:

(1) the lawyer orders or, with knowledge of the specific conduct, ratifies the conduct involved; or

(2) he lawyer is a partner or has comparable managerial authority in the law firm in which the other lawyer practices, or has direct supervisory authority over the other lawyer, and knows of the conduct at a time when its consequences can be avoided or mitigated but fails to take reasonable remedial action.

Rule 5.2 Responsibilities Of A Subordinate Lawyer

(a) A lawyer is ***bound by the Rules of Professional Conduct notwithstanding that the lawyer acted at the direction of another person***.

(b) A subordinate lawyer does not violate the Rules of Professional Conduct if that lawyer acts in accordance with a supervisory lawyer's reasonable resolution of an arguable question of professional duty.

Rule 5.3 Responsibilities Regarding Nonlawyer Assistance

With respect to a nonlawyer employed or retained by or associated with a lawyer:

(a)   a partner, and a lawyer who individually or together with other lawyers possesses comparable managerial authority in a law firm shall make reasonable efforts to ensure that the firm has in effect ***measures giving reasonable assurance*** that the person's conduct is ***compatible with the professional obligations of the lawyer***;

(b)   a lawyer having direct supervisory authority over the nonlawyer shall make reasonable efforts to ensure that the person's conduct is compatible with the professional obligations of the lawyer; and

(c)   a lawyer shall be responsible for conduct of such a person that would be a violation of the Rules of Professional Conduct if engaged in by a lawyer if:

    (1)   the lawyer orders or, with the knowledge of the specific conduct, ratifies the conduct involved; or

    (2)   the lawyer is a partner or has comparable managerial authority in the law firm in which the person is employed, or has direct supervisory authority over the person, and knows of the conduct at a time when its consequences can be avoided or mitigated but fails to take reasonable remedial action.

IX. CONCLUSIONS

Lawyers need to know about Blockchain as the Blockchain technology will impact our clients and their businesses around the world whether in trial or transactions. One way to learn more is to attend more educational programs such as this. As well the State Bar of Texas puts on a number of excellent CLE programs dealing with Blockchain and many materials are on the State Bar CLE website: http://www.texasbarcle.com